

THE BOSTON Medical and Surgical JOURNAL

VOLUME 195

NOVEMBER 25, 1926

NUMBER 22

The Massachusetts Medical Society SECTION OF OBSTETRICS AND GYNECOLOGY

DIET IN PREGNANCY*

An Attempt to Control the Size of the Baby

BY L. V. FRIEDMAN, M.D., F.A.C.S.

For some years (since 1916) various obstetricians have watched the effect of diet on the weight of pregnant women. This attention to weight and diet has been prompted by various reasons; the desire to lessen the incidence of eclampsia^{1,2,3}; the hope of finding earlier symptoms of toxemia than are afforded by the appearance of albumen in the urine and a rise in the blood pressure; to study the nutrition (especially calcium) of the new-born.

As a result of these investigations, the weight of the patient has been added to pre-natal observations because it has become evident that any sudden gain or loss of weight during pregnancy is important; as suggesting, in case of loss, the death of the fetus or the existence of some pathological condition in the mother, and in case of sudden gain, the retention of fluid in the body a considerable period before blood pressure, superficial oedema or urinary examination suggest it. Several writers have repeatedly urged the importance of restricting the intake of the pregnant woman. Gessner⁴ in analyzing the marked statistical decrease of eclampsia in Bonn during the war, concluded that it was to be explained by the high cost of food and its resultant deprivation in the lower classes, and a similar result in the wealthier classes due to the greater effort necessary to procure and prepare it in the absence of servants. Fitzgibbon⁵, Master of the Rotunda Hospital, Dublin, inveighs against overfeeding of the pregnant woman, considering it a secondary cause of eclampsia. In a paper⁶ read before the New England Health Institute, May, 1924, the writer said, "Perhaps the most important of all the newer methods of pre-natal care consists in watching the weight of the patient to prevent overeating. The old adage that the pregnant woman should eat for two has done incalculable harm. If the pregnant woman eats excessively of carbohydrate food, she is apt to develop diabetes, as it is well known that her tolerance for sugar is

low; if she overeats protein food, she is in danger of toxemia. In any case, overeating develops a great deal of fat, which makes proper exercise difficult, decreases the space through which the baby must pass and produces a larger baby and consequently a more difficult labor." The clinical experiments, of which this is a preliminary report, were initiated however for a different and, as the writer believes, a more important reason with much broader implications. The persistent high maternal mortality in childbirth has been the stimulus for detailed statistical study by the Ministry of Public Health for England and Wales⁷ and by the Massachusetts Department of Public Health⁸. These figures show a mortality of 3.81 in 1922 in England and Wales and 5.9 in 1924 in Massachusetts per 1000 living births.* Further study of these figures show that in England 36% of the deaths and in Massachusetts 22%+ of the deaths were due to puerperal infection. The English statistics do not separate operative deliveries, but the Massachusetts figures show that 61% of the maternal deaths in 1922-23 from sepsis followed an operation. Both in England and in Massachusetts a well planned campaign has been in effect for some years, introducing pre-natal care and attempting to spread among practitioners the necessity for careful asepsis in obstetric operations, but this campaign has produced only a fractional decrease, if any, in the incidence of sepsis. The introduction of rectal instead of vaginal examinations has become general and where used has probably reduced the incidence of sepsis to a minimum in normal deliveries. Consequently, it seemed desirable to attack the problem of sepsis from a different angle. It remained, then, to find some method of simple technique and consequent wide application to reduce the number of operative deliveries. Probably two factors contribute to the number of operative deliveries more than all others combined. The first being

*Read at the annual meeting of the Massachusetts Medical Society, Springfield, Mass., June 8, 1926.

*The apparent higher mortality in the Massachusetts statistics is due, in part, to differences in the statistical methods.

PRIMIPARAE WEIGHED AND DIETED

	Age	Wgt. at 1st vis.	Wgt. at 9 mos.	Wgt. at 10 mos.	Total gain	1st stage	2nd stage	Operation	Baby
1	27	127	138	137	10	7 hrs. 30 min.	49 min.		M 7-10
2	24	128	140	143½	15½	16 " 30 "		Completion of dil. and low F.	F 7-12
3	34	116	126	126	10			Caesarean	F 5-8
4	25	99	114	118	19	4 "	1 hr. 30 "	0	M 6-5
5	24	186	200	197	11	7 "	1 " 30 "	Low F.	M 8
6	27	126	140	141	15	2 "	1 " 30 "	0	M 7-12
7	23	99	118	121	22	2 " 30 "	1 " 24 "	Low F.	F 7-4
8	21	118	139½	139½	21½	4 "	50 "	0	M 6-10
9	26	153½	158	160	6½	12 "	50 "	Mid. F.	F 6-4
10	21	126	134	135	9	7 "	30 "	Version	M 7-12
11	22	116	129½	132½	16½	3 " 30 "	38 "	Low F.	F 6-12
12	35	155	155	158	3	3 " 30 "	34 "	" "	F 7-1
13	29	140	153½	156	16	12 "	49 "	" "	M 7-4
14	30	125	142	144	19	8 " 30 "	15 "	Version	M 7-5
15	28	89½	98	99½	10			Caesarean	M 7-4
16	28	135	150½	154	19	5 " 15 "	1 " 15 "	Breech del.	F 6-10
17	25	145	152	153	8	3 "	1 " 15 "	" "	F 6-4
18	29	121	129½	133½	12½	5 "	1 " 30 "	" "	M 6-1
19	28	114	130½	131½	17½	10 "	1 "	Version	M 8-7
20	32	149½	161½	163½	14	5 "	30 "	Low F.	F 6-9
21	24	240	240½	237	—3	9 "	36 "	" "	F 7-14
22	29	105	125	127½	22¾	3 "	2 hrs.	Breech del.	M 6-11
23	33	128½	132	131	2½			Caesarean	F 6-10
24	24	136	153	156	20	12 "	1 " 30 "	Low F.	F 6-5

a prolonged labor with consequent fatigue so characteristic of the woman in labor who is not making progress. The second is mere size of the baby. With these factors in mind, it was decided to attempt to control the size of the baby by a restricted diet of the mother through-

PRIMIPARAE NOT WEIGHED NOR DIETED

	Age	1st stage	2nd stage	Operation	Baby
1	23	8 hrs. 15 min.	46 min.	Low F.	M 8-7
2	26	7 " 15 "	45 "	" "	M 7-3
3	21	6 " 30 "	45 "	Low F.	F 7-15
4	25	7 " 30 "	50 "	" "	M 8-8
5	29	16 "	30 "	Version	F 7-1
6	21	9 "	30 "	Low F.	M 6-14
7	28	20 "	20 "	" "	F 8-2
8	23	12 "	10 "	Version	F 9-8
9	26	6 "	61 "	Low F.	M 6-8
10	23	6 "	90 "	" "	M 7-4
11	23	8 "	15 "	" "	M 6-9
12	25	8 "	50 "	" "	M 6-8
13	27	7 "	60 "	Breech	M 6
14	29	6 " 30 "	45 "	Low F.	M 7-12
15	24	11 "	83 "	" "	F 6-12
16	40	5 "	10 "	" "	M 6-10
17	24	17 "	120 "	High F.	M 7
18	25	18 "	20 "	Low F.	M 7-2
19	30	9 "	60 "	" "	M 7-4
20	25	5 " 30 "	40 "	" "	M 7-7
21	27	17 "	54 "	" "	M 6-5
22	26	11 " 30 "	30 "	" "	F 6-14
23	35	11 "	75 "	" "	M 8-8
24	30	10 "	110 "	Mid. F.	M 8-6

out pregnancy, as it seemed likely that smaller babies would be accompanied by short second stages, fewer operative deliveries and a reduction in the mortality from sepsis. And it seems that in the small number of instances here given, a certain degree of success in controlling the size of the baby was attained. But, unex-

pectedly, another result proved much more uniform and successful than the diminished size of the babies, namely a marked decrease in the length of the first stage, especially in primiparous patients. It was not until the results of this series were tabulated that the writer discovered that L. Prochownik of Hamburg⁸ had published a careful study of 62 cases in pregnant women who had lost a first child or had a difficult delivery and where, under strict diet, subsequent labors were terminated by an operative delivery with a living child or by a normal delivery. Prochownik's experiences paralleled the writer's cases. The diminution in the size of the babies was constant but not great, but there was a marked increase in the efficiency of labor with a consequent decrease in the number of operative deliveries and in maternal and fetal injuries. Prochownik explains that the higher rate of maternal metabolism and the lessened physical activity in the last two months provides for the needs of the child without any necessity for increasing the quantity of the mother's diet. The diet instituted by Prochownik decreased the carbohydrates to a minimum and permitted the pregnant woman only 500 cc of fluids a day, the additional necessary fluid being furnished by the liberal allowance of fruit and green vegetables.

The first method attempted was that suggested in a paper "Diet During Pregnancy," June, 1923, by Dr. Hilbert Day⁹. This furnished specimen diets based on their value in calories and his statistics showed an average gain during the whole of pregnancy under this diet to be slightly over 14 pounds. But after a short trial, it was found that a carefully cal-

MULTIPARAE WEIGHED AND DIETED

Age	Wgt. at 1st vis.	Wgt. at 9 mos.	Wgt. at 10 mos.	Total gain	1st stage	2nd stage	Operation	Baby
1	7	164	164	165	1	5 hrs.		
2	36	165	172½	172½	7½	4 "	50 min.	High F.
3	31	133½	143	143	9½	6 "	25 "	F 6-12
4	24	130½	153	155	24½	10 "	30 "	F 7-14
5	35	167	174	175	8	4 "	45 "	F 7-3
6	32	151	163	165	14	2 "	55 "	M 8
7	20	151	162	165	14	4 "	1 hr. 15 "	M 8-3
8	31	166	175½	177½	11½	10 "	1 " 20 "	F 7-4
9	35	178	198	200	22	3 "	22 "	M 6-9
10	30	160	176	176	16	3 "	6 "	F 10
11	34	142½	151	150	7½	7 "	23 "	M 8-4
12	34	126½	141	141½	15	2 "	15 "	M 6-1
13	32	141	161	166	20	4 "	34 "	F 6-1
14	26	157	166	165½	8½	7 "	27 "	F 7-8
15	28	152	170	170½	18½	4 "	30 "	M 8-5
16	28	137	146	146½	9½	2 "	10 "	F 7-12
17	27	162½	162	164	1½	1 "	15 "	M 6-15
18	38	177½	181½	180½	3		25 "	F 6-10
19	44	114	119	119	5	3 "	Caesarean	M 7-10
20	35	145½	144	142½	—3	5 "	1 " 6 "	F 6-12
21	35	148	156½	158	10	45 "	35 "	F 7-5
22	38	146	151	153	7	9 "	10 "	F 7-13
23	29	123	131	132	9	8 "	1 " 40 "	F 5-13
24	29	129½	146	149½	20½	4 "		F 6-10
25	34	136	132	131	5	10 "	20 "	Low F.
26	26	126	141½	141½	15%			Caesarean
27	38	149	160	169	20	1 " 12 "		M 8-2
28	30	124½	138½	139	14½	30 "	45 "	M 5-8
29	29	120½	138	139	18½	30 "	30 "	Mid. F.
30	22	121½	138	137½	16	2 "	15 "	F 5-4
							5 "	F 6-6
								M 6-14

culated caloric diet was burdensome to both physician and patient; that, whereas, it seems reasonable in the case of a disease, like diabetes, it was unsatisfactory in pregnancy which ought not to be considered a disease, and it was decided to allow the patient comparative freedom of diet except as it was necessary to check her when her weight taken once a month showed a greater gain than one-half a pound a week. The following working plan was adopted. Here, too, accuracy of weight was sacrificed for a practical and quick method for use during office hours especially as it was relative rather than absolute weight that was desired. At her first visit, the patient was weighed in her clothes (wraps, hat, overshoes and corset removed). Reference was made to a table of standard weights relative to age and height, but these standards were not considered of more than suggestive value. Due consideration was given to the period of pregnancy and in the early months, whether a period of nausea had resulted in a loss of weight. It was found in several instances, that in spite of vomiting once or twice a day, patients gained weight steadily. The item of weight was then followed exactly as other pre-natal items were followed. If the weight seemed normal, the patient was instructed as to the importance of restricting her weight and its results in comfort, safety and good looks. She was urged to limit herself to one moderate "helping" of each dish but not to skip a meal, which common custom it was found was always associated with a rapid gain in

weight. The patient was not weighed again for a month and if she had gained less

MULTIPARAE NOT WEIGHED NOR DIETED

Age	1st stage	2nd stage	Operation	Baby
1	30	2 hrs.	30 min.	F 8
2	28	5 "	55 min.	F 5-11
3	26	7 "	60 "	M 8-11
4	33	7 "	25 "	Low F.
5	31	4 "	15 "	M 9-8
6	35	2 "	45 "	F 7-8
7	34	10 "	30 "	F 6-12
8	35	10 "	20 "	Version
9	25	5 "	30 "	M 8-12
10	34	4 "	45 "	M 6-14
11	25	7 "	40 "	F 9-3
12	20	12 "	30 "	M 8-2
13	27	6 "	30 "	F 7
14	25	9 "	30 "	M 8-15
15	24	2 "	30 "	F 6-6
16	28	6 "	10 "	M 7-12
17	27	5 "	10 "	F 8
18	31	5 "	15 "	F 7
19	29	6 "	15 "	F 7-15
20	30	9 "	16 "	M 8-10
21	23	10 "	30 "	M 7-6
22	32	16 "	35 "	M 8-12
23	27	5 "	30 "	F 7-12
24	23	2 "	5 "	F 9-8
25	34	7 "	99 "	F 5-12
26	24	5 "	35 "	High F.
27	33	2 "	30 "	High F.
28	35	7 "	49 "	Breech
29	33	7 "	30 "	F 10-5
30	33	3 "	30 "	Version
			108 "	F 7
				M 7-8
				M 7-8

than one-half pound per week (an arbitrary amount selected from these experiences) she was encouraged to eat more, but if she

had gained more, she was at once put on a strict diet—(a typed copy being given her) which eliminated all sweets, potato, macaroni and soups, and required two tablespoonsful of cereal once a day and one slice of bread per meal to guard against acidosis. She was told to report once a week to have her weight checked up. This diet was then increased or decreased according to the results. At the same time, suggestions were made so as to insure an ample calcium and vitamin content by the use of milk or butter and green vegetables or fruits. As will be noted by reference to the tables, patients who were markedly overweight early in pregnancy were dieted strictly so as to insure no gain, or even a slight loss throughout pregnancy. In a majority of the cases, the patient became interested in the experiment and cooper-

diet throughout pregnancy resulted in a smaller baby, it would be expelled more easily, not only because smaller, but also because of better contractions with a shortening of the total length of labor. Reference to the table will show that this proved to be the case, but it was expected that the effect would show particularly in the shortening of the second stage rather than the first stage. The writer believes that this result is to be explained by the improved general condition of the patient and the absence of fat in the muscles which results in increased muscular efficiency, a fact long known to the trainer of athletes.

The statistical table was based on consecutive cases in the writer's private practice, except for certain cases which obviously could not be fairly included. Those ruled out were cases where records were incomplete, several cases of twins and of course premature babies. Further, only such Caesareans were included as had started in labor at full term before the operation. But it may be stated here that a small baby is quite as desirable in a Caesarean delivery as in a normal delivery, inasmuch as there is better contraction and consequently less hemorrhage where the uterus has not been overdistended. The averages of the patients not weighed nor dieted were taken from a consecutive series immediately preceding those under diet, with similar exceptions of prematures and twins. As all his cases are delivered in a hospital which has an excellent aseptic technique, the writer applies forceps to the low head as soon as progress lags in the second stage, consequently the figures for the length of the second stage and the number of forceps deliveries are of no real statistical value.

Reference to the table shows that the average length of the first stage was reduced from over 10 hours in undieted primiparae to 5 hours and 56 minutes in dieted primiparae. The average weight of primiparous babies where the mother was dieted was reduced to 6 lbs. 15 oz. as compared with 7 lbs. 5 oz. In multiparae under diet the average first stage was reduced from 6 hours 42 minutes to 5 hours 25 minutes; the average weight of the babies from 7 lbs. 15 oz. to 7 lbs. 2 oz.

The number of cases here reported is so small that the writer realizes that the statistical results certainly are open to question; consequently, he hopes that additional series may be added from time to time.

WEIGHTS OF BABIES

	54 cases not dieted		54 cases dieted	
	Fe- Male	male	Fe- Male	male
5 lbs. to 6 lbs., incl.	1	2	1	3
6 lbs. 1 oz. to 7 lbs., incl.	10	6	8	4
7 " 1 " " 8 " "	11	7	9	12
8 " 1 " " 9 " "	9	1	6	0
9 " 1 " " 10 " "	2	3	0	1
10 " 1 " " 11 " "	2	0	0	0
	35	19	24	30

ated satisfactorily, probably because of the present fashionable desire for a slim, youthful figure. It was noted that there was a prompt improvement in the comfort of the dieted patients, less gas, less hyperacidity and consequently more physical activity which aided the breaking of the vicious circle so common in pregnancy, which begins with an overdistended stomach, followed by slight dyspnoea and consequent inactivity, then hyperacidity with a constant desire for food to appease it. One unexpected finding was the essentially stationary weight in the last four weeks; a slight loss was occasionally noted; and in about one-fourth of all the cases followed, there was no gain. But the most striking and unexpected result was shown in the definite shortening of the first stage, especially in primiparae. It has long been accepted that overdistention of the uterus from any cause, a single large baby, twins or hydramnios, results in ineffective contractions and consequently in a prolongation of labor. Therefore, it might have been anticipated that if a restricted

SUMMARY OF TABLES

	Average total gain	Average 1st stage	Average 2nd stage	Average wt. of baby
24 Primiparae not dieted		10 hrs. 6 min.	50 min.	7 lbs. 5 oz.
24 Primiparae dieted	13 lbs. 3 oz.	5 " 56 "	1 hr. 5 min.	6 " 15 "
30 Multiparae not dieted		6 " 42 "	36 min.	7 " 15 "
30 Multiparae dieted	11 " 10 "	5 " 25 "	35 "	7 " 2 "

The total average gain while the patients were under observation was 10 lbs. 10 oz. for multiparae and 13 lbs. 3 oz. for primiparae, but these figures are very inaccurate from a statistical point of view, as a considerable percentage did not appear until they were over three months pregnant. In none of these cases was the condition of the baby impaired at birth. In several cases where operative delivery was necessary, the small size of the baby contributed to ease of delivery and practically ruled out the possibility of serious birth injuries.

Certain disadvantages of a sharply restricted diet deserve careful consideration, although they did not appear in any of the cases in this series. The prolonged diet may in some instances lessen the vitality or "pep" of the patient at the time of labor. It may increase the anemia which is so often a marked disability of the pregnant woman and at the close of labor in case of post partum hemorrhage, one has a patient with a reduced margin of reserve. The lack of vitality should be noted and treated before labor, but the writer believes this objection to be a theoretical, not a real one. Where there is anemia, the diet must be altered to meet the condition, but this can be accomplished without undue gain of weight. The writer is convinced that the lack of a broad margin of reserve is also a theoretical objection, as it is particularly in the carefully dieted cases that overdistention of the uterus and prolonged first stage are prevented, and these are certainly the common causes of post partum hemorrhage, which it has long been known is more common in fat women. Where operative delivery is necessary, the smaller size of the baby makes it much easier to carry out and especially in primiparae any sudden emergency which involves immediate operative delivery can be faced with greater equanimity because of the assurance of less injury to maternal soft parts, and to the child.

A minor result of small babies is the slighter

damage to the perineal fasciae. The obvious tears can be repaired readily at the time of labor, but the submucous injuries to the fasciae are seldom recognized until the patient appears for a final examination, when the obstetrician's pride in having delivered a nine or ten pound baby is checked by the appearance of a bovine relaxed vaginal outlet.

If these statistics are confirmed in larger series of cases, there can be no doubt that the number of operative deliveries will be decreased and with this decrease there may be expected a drop in the mortality due to sepsis. The method here advocated is so simple that there is no reason why it should not be followed by every practitioner doing obstetrics.

CONCLUSIONS

Patients who are not permitted to gain over one-half pound a week from the 12th to the 40th week of pregnancy show

- (1) Less hyperacidity, less gas, less discomfort.
- (2) A marked decrease in the length of the first stage with coincident diminution in number of operative deliveries.
- (3) A slight but definite decrease in the weight of the baby with less likelihood of birth injuries.
- (4) Less chance of post-partum hemorrhage.

BIBLIOGRAPHY

- 1 Gessner, W.: Effect of Diet on Eclampsia. *Zentralbl. f. Gyn.* 1921, 45, 1814.
- 2 Davis, C. H.: Weight in Pregnancy. *Am. Jour. Obst. and Gyn.* Vol. 6, No. 5, Nov., 1923.
- 3 Hannah, C. R.: Weight During Pregnancy. *Am. Jour. Obst. and Gyn.* Vol. 9, No. 6, June, 1925.
- 4 Fitzgibbon, G.: Relationship of Eclampsia. *Jour. Obst. and Gyn., Brit. Emp.* Vol. 28, No. 2, 1922.
- 5 Friedman, L. V.: Prevention of Eclampsia and Sepsis. *Mass. Dept. Pub. Health*, May, 1924.
- 6 Campbell, J. M.: Maternal Mortality. *Report on Pub. Health*, London, 1924.
- 7 De Krulff, Southard and Hamblin: Maternal Mortality in Massachusetts. *J. A. M. A.* Vol. 86, No. 6, Feb. 6, 1926.
- 8 Prochownik, L.: Ernährungscur in Schwangerschaft. *Therap. Monatsch.* Berlin, Vol. 15, 1901.
- 9 Day, H. F.: Diet During Pregnancy. *Boston Med. and Surg. Jour.*, Vol. 188, No. 23, p. 904, June 7, 1923.

POSTPARTUM CARE*

BY GEO. W. KOSMAK, M.D., F.A.C.S.

THE phenomena which develop during the course of pregnancy and finally culminate in labor are a source of such constant interest and attention on the part of both patient and physician, that the period immediately succeeding, marked as it is, by the feeling of great difficulties satisfactorily overcome, is apt to be accorded less consideration than it demands and deserves. It must not be forgotten that the various physiological processes which lead up to the birth of the child need be readjusted after this event to the usual normal life of the woman.

*Read at the annual meeting of the Massachusetts Medical Society, Springfield, Mass., June 8, 1926.

Interference with this process, or the carrying over of disturbances from pregnancy, is just as apt to lead to deplorable consequences as interruptions or aberrations of similar processes during pregnancy and labor. The process of readjustment after the delivery of the child in the human organism is generally designated as involution and this term should not only be applied to the retrogressive changes in the genitalia, but to other portions of the female organism that are concerned with the physiology of the pregnant state. In other words, we should not only extend our attention to the involution of the uterus but to that of the kidneys,

the breasts, the glands of internal secretion, and all the other organs concerned in the process.

The postpartum stage dates practically from the expulsion of the placenta, and while this terminates the third stage of labor in a technical sense, it demands that the attendant remain in close contact with the patient until the immediate phenomena of this period are definitely adjusted. One should remember that a smooth puerperium depends on proper care before, during, as well as after labor. For example, proper attention to the breasts before labor will often determine the occurrence of fissured nipples, proper care of the bowels, the possible occurrence of a pyelitis, the removal of foci of infection from tonsils or teeth, the avoidance of a possible septicemia. The care of the puerperal woman should therefore be a routine measure. It must be definite and its necessity impressed on the patient to avoid possible subsequent complications. It may be well to take up certain essential features of this routine treatment before proceeding to the discussion of the other abnormalities of the puerperal state.

1. *Rest.* This is essential at all times. The exhausting muscular effort of labor demands quiet and an opportunity for sleep just as the expenditure of muscular effort at other times. Muscular activity produced toxins, which, as under other circumstances must be eliminated. Ordinarily physiological sleep follows the completion of labor and should not be interrupted by solicitous friends, or even the baby, during the first day or two. Circumstances naturally alter cases, but the average puerperal patient is much better off without the attendance of visitors both as an interference with her normal recovery and for other reasons to be mentioned later. If afterpains, irritating sutures, bowel cramps or other things interfere, the cause should be removed if possible, or sedatives given.

2. *Diet.* After severe muscular exercise the digestive system needs rest as well as replenishing, but such food should be small in quantity and easily digested. It is a good practice to give patients plenty of fluids during the first twenty-four hours without much solid food. Women after labor are more or less dehydrated. They have lost fluid through perspiration, probably they have not been drinking freely during labor and often have been vomiting during the pains. Water, tea, cocoa, weak coffee and diluted milk with possibly an occasional piece of toast or a soft boiled egg should be given during the first day, supplemented on the next day by a little more solid food. The fear on the part of many women that fluids given freely during the first few days will lead to an overfilling of the breasts is quite groundless, and if this should occur it seems to be more important to supply the organism with the fluid which it craves notwithstanding that the breasts may become some-

what congested. Subsequent to these early days the question of diet depends largely on the individual circumstances,—the fact that a woman is to nurse her baby should not cause her to be limited to certain articles of food in the attempt to keep up the milk secretion. Telling the patient that she can continue with the same diet that she has been accustomed to will fulfill all the requirements and if the breast secretion is not sufficient an extra amount of fluid can always be employed. The food should be easily digested and eaten slowly. Meals never ought to be interrupted by nursing periods.

Nursing mothers aided by solicitous relations and friends are very apt to indulge in excessive milk drinking which usually results in a furred tongue and constipation. While milk is most desirable, its value in great part is in nourishing the mother rather than the baby. In cases where the breast secretion is insufficient, numerous remedies have been recommended, including the use of various gland extracts. I have personally seen very little result from any of these and believe that a liberal carbohydrate diet with plenty of fresh air and sunshine will do more to replenish a diminished breast secretion than any form of drug treatment. Where babies do not promptly gain, recourse is often had to a milk analysis and if this does not prove immediately satisfactory the baby is frequently put on artificial feeding. It should be borne in mind that the laboratory report on a particular specimen of milk is not the deciding factor and that the baby's ability to digest and gain weight is the best indicator of the value of the maternal milk supply. Of course where a high fat content is present the baby will develop indigestion and colic, and likewise be constipated. The diagnosis can always be made from the stools without recourse to a laboratory test and the ingestion of water or a weak cereal gruel before nursing will usually correct this situation. It is often found in women who are overeating and getting insufficient exercise so that the remedy in such instances is evident.

3. *Bladder and bowels.* Paralysis of the bladder after labor is not unusual and is simply due to the pressure of the head against the lower segment of the uterus by which the bladder is compressed against the pubic bone. Occasionally this may result in a contusion of the bladder wall, so that the urine is blood stained. Overdistention of the bladder after labor is not uncommon and as the nervous control is more or less paralysed the patient may be unaware of the distention. The uterus is correspondingly displaced and proper drainage interfered with. Every patient should make an attempt to void within twelve hours after labor and if this is not possible, catheterization should be resorted to. If carefully done with a soft rubber catheter, sterilized and lubricated, no harm will

result. The process should be repeated at least once every twelve hours and if overdistention is avoided the normal tone of the bladder will soon be regained. In certain cases, however, where the contusion has been extreme, or where lacerations have occurred around the meatus that require suturing, such paresis may persist for several days. If so, possible infection of the bladder may perhaps be avoided by giving from 40-60 grains urotropin daily. It has been conclusively demonstrated that residual urine is more likely to produce cystitis than the proper use of the catheter.

The care of the bowels is one of the most important factors in the early puerperium. Constipation may be merely the continuation of a previous state, or be due to lack of exercise, paralysis of the lower bowel from pressure and the lack of food during the first few days after labor. It has become almost a universal custom to give cathartics if bowel evacuation has not resulted within two or three days. In many instances the mother experiences but little effect from such catharsis except a diminution of her milk supply, but the baby gets the benefit of the same. It has been my practice for many years to avoid cathartics during the first week and to give soap suds enemas every day or two. This insures a complete emptying of the bowel once daily, while catharsis by drugs produces many small movements. Where the patient has very constipated stools, these may be softened by the injection of olive oil at night, followed by a soap suds enema in the morning. Where a cathartic is indicated one of the vegetable products should be used rather than the salines because of the depleting effect of the latter on the milk supply. It was actually demonstrated in a series of cases at the Lying-In Hospital some years ago that much less fever was likely to occur during the puerperium if no cathartics were given, but resort was had to enemas every day or two. In large, plethoric women with an abundant milk supply, the use of magnesium sulphate in one-half ounce doses, freely diluted, before breakfast may be indicated, but salines should never be given to the woman of average size, already more or less depleted from her labor.

4. *Involvement of the uterus.* As is well known, the preliminary firm contractions of the uterus after labor are succeeded by a period of relaxation during the first twenty-four hours, when the fundus rises from its position at the pelvic brim to the level of the umbilicus. The proper watching of the fundus after delivery is a subject of much dispute. Many authorities claim that the uterus should be massaged for at least an hour after delivery, while others are equally insistent that it be left alone. A middle ground, it seems to me, is the best path to pursue. The fundus should be watched for at least an hour without being massaged, the hand of an

attendant being held on the abdomen about the level of the umbilicus and any marked relaxation or ballooning of the uterus will then be noted in time. A uterus that does not contract and relax normally should be stimulated and if a steady trickling of blood occurs the use of ergot or pituitrin is indicated. A word of caution is necessary at this point, as the bleeding may not come from the uterus, especially if the fundus is hard, but may be due to a cervical or perineal tear. Where the bleeding persists it is necessary to pull the patient to the edge of the bed and examine the cervix and perineum under a strong light where this has not been done immediately after labor. A cervical laceration extensive enough to produce hemorrhage should be sutured and likewise one of the perineum. Patients sometimes lose a pint or more of blood an hour or two after delivery and therefore the physician should not leave a patient until the uterus is firmly contracted and all bleeding stopped. In cases where relaxation occurs clots should always be expressed two or three hours after labor.

5. *Lochia.* Attention to the character of the lochia should always be a matter of personal observation with the physician. A red lochia should not persist beyond the first week and if it does we are dealing either with a condition of subinvolution, with an unhealed laceration, with retained secundines, or a fibroid tumor. Subinvolution is of course more apt to be found in multiparae and may be aggravated by a displaced uterus. It is always advisable therefore to make a postpartum examination not later than the tenth day and even earlier where the fundus cannot be felt through the abdominal wall, in order to determine where this may be. In such cases the use of the knee-chest position combined with prolonged hot douches may be necessary to hasten the process of involution. Where the uterus is large and boggy and somewhat tender, the question of a coexisting metritis must always be considered and particularly if this is combined fever. Resort to the curet has unfortunately been too frequent in such cases, with the result of opening fresh channels of infection. It is better to pursue a waiting course and aid the process of involution by the administration of oxytocics and hot douches rather than by operative interference. A red lochia, as I have already stated, may be due to a neoplasm and an attempt should always be made to diagnose this if present. Intramural fibroids or subperitoneal fibroids can often be felt through the abdominal wall and unless fever is present they may be relied upon to retrograde without further disturbance. In some cases, however, submucous fibroids or polyps are present and continue to bleed freely for weeks after delivery. Fortunately many of these are extruded spontaneously after being separated from their bed and the process should

be left to nature unless the bleeding is extreme. Small doses of ergot repeatedly given often hasten the expulsion of such tumors.

6. *Getting up and exercise.* Although the rule is not inflexible, the puerperal woman should be kept in bed at least nine or ten days. In a normal case involution may be considered to have progressed sufficiently during this period, but if not, as shown by bleeding, the patient should be kept in bed until this ceases. There is no reason, however, why patients should not move around in bed as much as they please unless some contraindication exists, and I always direct that within twenty-four hours the patient be urged to roll over from side to side. They are likewise urged to actively move the extremities and at the end of the first week are gotten into the knee-chest position. If no perineal sutures have been used patients may be allowed to sit up in bed to nurse their babies on the third or fourth day, or if perineal sutures have been inserted, as soon as these are removed. Most women can nurse their babies much easier in the sitting position and are relieved by being allowed to assume it. When the patient gets out of bed she should be allowed to sit up for at least an hour or two on the first day and then twice on the second. I do not favor the usual twenty minute sessions. Calisthenic exercises are of great importance and should be begun within two weeks after the baby's birth. They should be very simple and consist merely of bending and stooping movements which are carefully demonstrated by the physician or nurse. A great deal of the backache and discomfort following delivery can be avoided by the bed exercises and the simple calisthenic movements referred to.

7. *Postpartum examination.* It is essential that a complete examination of the patient be made not later than two weeks after delivery in which particular attention must be given to the condition of the breasts and the pelvic organs. The vaginal examination should determine above all things the position of the uterus, its degree of involution, mobility and sensitiveness. If a uterus is large and boggy, is sensitive, not freely movable, it means that the organ is not well involuted and that we are dealing in addition with parametritis that may, unless attended to, lead to later invalidism. Malpositions of the uterus at the end of two weeks unless congenital can often be overcome by the knee-chest position, but pessaries to retain the uterus should not be employed at this time. Another examination should be made at the end of four weeks and a corresponding one at the end of two and three months. Malpositions of the uterus are frequently not discovered until the later examinations and if present a retroversion pessary is indicated. Unless associated with inflammation most retroversions can be manually corrected and much trouble saved. There is a

class of women however afflicted with congenital retroversions which likewise manifest themselves at the second or third month and in such, correction is difficult or impossible.

As a supplement to the routine care already outlined there are a few special conditions involving the postpartum period to which I would like to draw more specific attention,—among them hemorrhage and sepsis.

Hemorrhage is usually regarded as one of the complications of labor although we generally refer to it as postpartum hemorrhage. In addition to the acute loss of blood before or incident to the delivery of the placenta, there are hemorrhages occurring subsequent to this period to which attention must be directed. Hemorrhage immediately following delivery has two physiological sources that should be recognized but for which preventive measures cannot ordinarily be applied. I refer to either prolonged or rapid delivery. Prolonged labor with extreme exertions of the uterine muscle is very apt to result in undue postpartum relaxation of this organ which is not overcome by the usual massage of the fundus. As soon as the child is born and cared for, the attendant's entire attention should be directed to hemorrhage in the mother. As a rule, bleeding from the uterus itself is restrained while the placenta is *in situ*, although considerable bleeding may take place during the act of separation which cannot always be diagnosed. As the care of the fundus is usually left to some one else while the attendant is busy with the repair of perineal lacerations, undue distention of the uterus with blood may result. For this reason the routine injection of pituitary extract has been recommended as soon as the baby is born, and a series of cases have been studied in which the amount of blood loss has been accurately measured. It would appear that the procedure is of value and that the hemorrhage is correspondingly reduced where this is resorted to. I believe, however, that in many cases it results in early separation of the placenta and that this is extruded prematurely, or when extruded is followed by a corresponding relaxation of the uterus because the effect of the pituitary is only transitory. Moreover, as we never know how much hemorrhage will take place after the expulsion of the placenta, the injection of pituitrin should be reserved for this period unless some direct indication is present for its immediate administration. There is still considerable doubt as to whether early expression of the placenta is preferable to a long period of waiting for natural expulsion to take place. Much can be said on both sides of the question. After physiologic separation has taken place there is no value in having this foreign mass of tissue retained, and as we know that it takes normally about twenty minutes for such separation it would appear advisable to subject the uterus to compression during one of

its contractile efforts at the expiration of this time. If the placenta is loosened it will readily come away, and if not, we can afford to wait longer. If the placenta does not come away readily there is a question as to whether it should be left in place or removed manually. It is generally admitted that manual removal of the placenta is a dangerous procedure and should not be undertaken except as a matter of necessity and then with the utmost careful aseptic precautions. Retention of the placenta should be carefully differentiated from adhesions of this organ. A retained placenta may be fully separated and simply held back by a tonic contraction of the cervical ring, especially if pituitrin has been given. There is nothing to do in such cases but to wait a favorable time and expression by Cr de. I have seen a uterus almost everted by too strenuous efforts at expression in a condition of this kind and the administration of a small amount of anesthetic often relaxes the cervix sufficiently so that the expression can be completed.

It is difficult to discuss the large field of puerperal sepsis within the limits of a brief review such as this. Unfortunately little has been done in recent years in the treatment of this condition which can be regarded as specific. We must still rely on prevention rather than on cure. It is hardly necessary to repeat the statistics on the occurrence of puerperal sepsis, as these are generally acknowledged. In well regulated deliveries with a minimum of interference, septic infection is however rare and has been further reduced by appropriate prenatal care. Nevertheless there is still a surprising number of cases, often fatal, in which no cause for the infection is evident. We often hear of most virulent and rapidly progressing cases where precipitate delivery has occurred, or in which no vaginal examinations have been made. These have been regarded as instances of autogenous infections, and while there may be some truth in the assumption it is unreasonable not to make an effort to examine this possibility somewhat more closely. It is a strange fact that infectious processes that have been dormant for prolonged periods, and have continued so even through pregnancy, are suddenly lightened up after delivery has resulted. It is these unsuspected foci of infection that are likely to be the cause of puerperal septic processes in those cases where nothing in the genital tract can be found to account for the disturbance. Kellogg and others have shown quite conclusively the intimate association between extra genital foci of infection and the occurrence of toxemias in pregnancy, often resulting in sudden explosions in entirely unsuspected cases. Nephritic foci aside from those of the ordinary colon bacillus infection are subject to exacerbation after delivery, and we know that a tubercular focus in the lung is very apt to undergo rapid exacerba-

tion after delivery although perfectly quiescent before this time. The occurrence of thrombophlebitis may not necessarily be of pelvic origin, because an infected heart valve may likewise be at fault and it has been my recent experience to see a fatal case of sepsis in a young woman in whom the presence of a sore throat with a slight endocardial murmur led to further questioning and the finding of a chronic suppurating middle ear. Undoubtedly numerous other instances of obscure puerperal infections may be brought forward to sustain this contention and the admission of the fact should call for even greater caution in ferreting out these possible latent foci of infection. The question of autogenous infection aside from the definite foci is generally disputed and many investigators insist that all so-called autogenous cases can be eventually traced to a definite point of entrance—thus intercourse just a few days before labor has been accepted as an undoubted incentive and vaginal or rectal examination improperly conducted are likewise blamed. I personally question whether a vaginal examination during labor properly conducted is a common cause for the introduction of septic material. Nor do I believe that the substitution of the rectal method has reduced the incidence. The progress of the head through the pelvic canal should be followed by abdominal palpation and vaginal examination need only be resorted to at long intervals. Vulvar cleanliness is an important prophylactic measure against infection and should be attended to early in labor, including shaving and soap and water scrubbing or painting with tincture of iodine. Septic infection during or after labor is like infection of any bruised or lacerated wound, it is favored by a reduced local resistance and were it not for some physiologic protective mechanism, the incidence of this complication would be even greater. Hofbauer has actually demonstrated the existence of certain cellular elements in the lower portions of the broad ligaments which seem to support this theory. To avoid septic infection we must therefore sustain the vital processes of the mother, we must await normal dilatation of the soft parts. We may expedite labor at the end of the second stage where edema of the vulva predicates a tendency towards a later bruising and possible contusion of maternal tissues. We must reduce the possibility of the absorption of septic material by providing drainage from the birth canal and we must favor normal contractions of the uterus after labor.

These are routine procedures for every case and if to this we add cleanliness of our person and our hands and everything and everybody that comes into contact with the patient, the incidence of septic infection will be an unusual occurrence. It would not be possible to undertake a detailed description of the treatment of this still unfortunately frequent complication.

As I have already stated, there is no specific and little progress has been made in recent years. Locally we can do little or nothing,—interference by euret intrauterine douching, operation, has been shown worse than useless. Antitoxic or antiseptic sera have given us little result and the necessary antibodies, if this is what the patient needs, seem to have been more satisfactorily secured through the medium of whole blood transfusions. Treatment to meet general indications has met with more success than local measures.

Attention may be called to two possible courses of a septic infection,—the general septicemic process coming on soon after labor and the secondary, more or less local morbid processes which develop at any time within a few weeks. The former, being more dramatic in their onset and course, have received the greater attention—the latter more insidious, express themselves in terms of subsequent invalidism and have been consequently neglected. It is to these infections that I desire to direct attention.

The entrance of these later and chronic infections is usually through actual wounds of the birth canal rather than from absorption of septic material from the cavity of the uterus. While the placental site has been regarded as an open wound, the rapid contraction of the uterine musculature practically obliterates this and unless specific material has been directly introduced during the process of labor from below, it is doubtful whether many infections take place in this manner. Wounds of the cervix and vaginal tube, especially in its upper part are in contact or close relation to a specific contagious field, for we know that the vagina and cervix harbor many pyogenic organisms while the uterine cavity itself is almost sterile. The usual path of infection is therefore directly into the lymphatic channels or veins from this source and remains localized because of the protective wall of granulation tissue that is developed as in any other wound whenever this is possible. This process of infection does not cease in the early days of the puerperium but may continue for indefinite periods. That is why the induration in the pelvic cellular tissue which can be elicited on careful bimanual examination weeks after delivery, must be recognized and ascribed to its proper source.

In addition to these we have the more immediate wounds of the cervix which fail to heal properly. I refer less to the larger lacerations in the angles but to the more or less superficial ulcerations or so-called erosions of the region of the external os which result either from the eversion of the cervical lips due to laceration or from unhealed abrasions and wounds of the mucous lining of the cervical canal. These lesions give rise to well-marked symptoms, including backache, discharge, pelvic discomfort, etc., leading to actual invalidism, uterine displace-

ment and sterility. Nature will do a great deal to bring about a cure but much can be done by physical means to aid this process. In the first place it should be acknowledged as an actual condition and not passed by with the remark that it is simply weakness due to the labor. A careful pelvic examination should be made in every instance in from two to four weeks after delivery and if at the end of a month, evidence of pelvic induration is present the absorption of such exudates can be hastened by the use of glycerine tampons and hot douches. Visual inspection of the cervix at the end of four weeks should be made with a bivalve speculum and if superficial ulcerations are present these should be treated by the application of penetrating antiseptics such as iodine and mercurochrome or the electro-cautery. I have given up the use of silver salts for this purpose because of their cauterizing action on the superficial tissues and lack of penetration. In the presence of hypertrophy of the mucous membrane as shown by polypoid degeneration, the application of the actual cautery is indicated. There are now on the market several varieties of the latter and their employment constitutes one of the decided improvements in the therapeutics of the postpartum period. Such application should be made at intervals of from ten days to two weeks and merely enough heat employed to destroy the exuberant or infected tissue without producing excessive scar formation with the possibility of cicatrization. Eversion of the cervical lips may be considerably reduced by thorough cauterization of the angles, thus obliterating the granulation tissue and causing adhesion and healing of the laceration. The cellular tissue directly back of the cervix is very apt to develop a focus of chronic infection from cervical lesions and this infection may travel up high enough to actually displace the uterus posteriorly. Replacement of the organ is not possible under these circumstances and should not be attempted until the local inflammation has been done away with. A retroversion pessary will cause irritation and its use must therefore be postponed. The glycerine tampon, the hot douche and the knee-chest position will do much to overcome this trouble.

It is to these more or less obscure postpartum infections that I wish to draw particular attention for they are the direct cause of much of the invalidism which follows childbirth and fills our clinics and consulting rooms. They are progressive and not readily halted and we must concentrate our attention on inflammations of the cervix no matter when discovered. I have come to regard endocervicitis, even in the non-pregnant state, as productive of pelvic infection, and I would strongly urge its treatment whenever found. This means that every patient presenting a vaginal discharge should have a visual inspection of her cervix, for most discharges orig-

inate here, and an illuminated bivalve speculum is essential for diagnosis and treatment. If we step the process of absorption from a diseased cervix, much of the backache, pelvic distress, bladder frequency, disturbed menstruation, subinvolution, and other symptoms may be avoided and a condition of chronic invalidism after childbirth be made a rarer occurrence.

And all this means that the doctor's responsibility in the postpartum period does not end with the usual discharge of the patient at the end of ten or fourteen days. It means an examination at four, eight and twelve weeks and a recognition of those abnormal pathologic findings to which I have previously alluded. The patient may thus be saved much distress, she will be better able to take care of her baby and subsequent pregnancies rendered safer and abortion less likely.

DISCUSSION

DR. RUSHMORE: Sir William Osler used to say to his students, and I do not recall that this statement appears in anything that he published, that more people die of over-eating than from over-drinking. It is the kind of information which perhaps ought not to be too widely disseminated because if it becomes generally known, then we might have on our hands another amendment to the Constitution with the prohibition of use of food which was nourishing, or a decision of the court, indicating that all food of more than $\frac{1}{2}$ of 1 per cent. nourishment should be forbidden.

It is said that Cassar objected to the lean and hungry-looking Cassius, but it is not stated that Brutus was fat, although he proved to be the more dangerous of the friends. At the present time the insurance companies tell us that the undertakers will get us if we don't eat light, and certain doctors point out that we are likely to become insulin addicts if we continue to eat as much carbohydrates and continue to be as much over-weight as we are at the present time. Dr. Friedman's paper is a very interesting and timely suggestion; as he himself points out, the series of cases is too small to regard his contribution as a very conclusive demonstration, but we are to regard the conclusions as being suggestions indicating that more adequate groups of cases should be collected and a more thorough study made along these lines.

To review briefly the argument which he has stated, we find at the present time that sepsis is one of the great problems in obstetrics. Sepsis, as figures indicate, is much more frequent in patients in whom there has been some interference on the part of the physician through vaginal examination or operation. So that his argument is that in order to reduce sepsis, we should in every way prevent interference; and

one of the ways to prevent interference is to diminish the number of operative deliveries by reducing the size of the child if possible. Now we have to consider first, whether it is possible to reduce the size of the child. The paper is a slight demonstration but a very significant indication that reduction of the child is possible. It has occurred in this small series of cases.

The next point is, does this reduction of the size of the child prove of benefit to the mother? In such a small series of cases closely studied, closely observed and adequately cared for, little sepsis has occurred or was likely to occur, so that there would be required a very considerable number of cases to indicate that sepsis is actually diminished under dieting procedure. There is on the other hand, the possibility that this reduction of diet lowers the margin of reserve of the patient. The next point is in regard to the baby. Suppose the baby is reduced five, six, eight, ten ounces in weight. Is that good for the baby? We have no demonstration at this time in regard to results for the babies, though we have general impressions. One is that it does not hurt the baby to have the weight reduced in this way. Another is that it is distinctly advantageous.

In regard of the cause of sepsis, we say that the factors which enter, are, in the first place the germs which vary in their nature as different varieties and different kinds. In the second place, in their virulence; third, in the number; and then, aside from the germs, the resistance of the patient. We used to think that just as soon as we knew germs caused disease that we were getting away from puerperal sepsis. Bitter experience has shown this is not so and we still have sepsis and the factor that it is difficult for us to evaluate and yet is one of the most important factors, is the resistance of the patient. In general we do not know what the resistance of the patient means, although in some cases, it seems to mean that there is some chemical element in the blood which gives an active immunity. But we know that under some conditions, patients seem to do very well, but under others, patients' resistance is reduced, but exactly what are the factors involved, we are not yet ready to say.

Another factor which Dr. Friedman has noted is the introduction of germs and his opinion is that we are getting away from introducing germs from the outside in the case of pregnant women. Another point, to which Dr. Friedman has not alluded but which is brought out by the tables, is the actual diminution in the number of operative deliveries in these two series of cases. Omitting the Cesarean sections, because probably the section was not done on account of the size of the baby, in all cases small, we find the operative deliveries were reduced about one half in the dieted cases. This is a striking re-

sult but it is only suggestive, not convincing, as the series of cases is so small.

Dr. Friedman has referred to the trainer in the dealing of athletes. Is it not worth while to consider the pregnant woman as being prepared for an athletic event which requires the exertion of considerable energy? That is, one problem is to get her into good condition and to keep her in a condition satisfactory for the athletic event which she is to enter at the end of pregnancy and which will require a considerable exertion of energy on her part. I think this contribution of Dr. Friedman is to be regarded as of great importance in so far as it concerns the lowering of the percentage of sepsis. In spite of all that has been done in recent years, there has been a terrible death rate from sepsis. On the other hand, in many cases we have been able to eliminate toxemia of pregnancy. Eclampsia occurs more frequently in neglected cases. Perhaps working along the lines suggested, we may be able to do something to prevent sepsis, something comparable to what we have accomplished in preventing toxemia.

Discussion closed by DR. FRIEDMAN: There is not much I have to add, except that on talking over the matter with several physicians in the past two or three weeks there was apt to be a misunderstanding, which I would like to point out. It was thought by many that the aim was to literally produce a smaller baby. Now, that's entirely wrong. The aim is to prevent having over-sized babies, rather than to reduce the baby below the normal average—a thing, of course, which is essentially impossible to do.

As to the question of sepsis which Dr. Rushmore brought out, there happens to be no sepsis whatever or no temperature over 100.4 in each case, and I have not laid stress on operative deliveries or concurrent absence of temperatures because it seems to me the number of cases is too small, although I have included them in all the large tables I am going to publish so as to give a complete resume of cases.

It has seemed to me in going through this series of cases it might be considered that the slight diminution in the size of the babies or the diminished number of operations would diminish only slightly the incidence of sepsis, but if you will think it over you will find we are being driven to the very last ditch on sepsis and everything will have to be taken into account and played up to as much as possible, and, if it proves an easy game to play for those who do the bulk of cases and is applied to thousands of deliveries all over the Commonwealth of Massachusetts, it would, I think, produce a definite decrease in the amount of sepsis.

DR. RUSHMORE: I have been very much interested in the subject of post-partum care for

some time and there are one or two points to which Dr. Kosmak alluded in his comprehensive and therefore somewhat compressed paper on which I would like to enlarge from the point of view of the laboratory. What does the anatomical and physiological and pathological laboratory teach in regard to the puerperium and how should that teaching influence us in our treatment of patients? A contribution to this subject has recently been made by Hofbauer in which he points out that in normal cases of pregnancy there seems to be quite regularly a definite reaction on the part of the tissue at the side of the cervix which looks as though it were a natural protection of the patient against infection, indicating a preparation for increased tissue resistance to offset any infection. This is only a suggestion, the work is not conclusive and the conclusions he draws from his findings are not perhaps warranted in their scope. To consider the condition of the uterus after the birth of the placenta, we have a raw surface of potentially 50 to 60 square inches. If the uterus is firmly contracted it is of course actually much less. We would regard that as a wound of considerable extent if on the surface of the body, yet I am afraid most of us have little fear of mauling the inside of the uterus when it is this very dangerous condition, in any part of which are openings of vessels through which infection can very easily slip up to extend throughout the whole body.

What happens to the uterus a few days after the child is born? Granulations begin to form very quickly so that in 10 to 14 days the inside of the uterus is a granulating wound, fairly safe from infection, for a granulating wound has a distinct capacity to resist infection. Until the granulations have formed however, the uterine cavity is very susceptible to infection, so that after the placenta has come away, the inside of the uterus should be left strictly alone unless some urgent need for interference arises. Do not casually do anything to the inside of the puerperal uterus.

Now in regard to the later changes which occur in the pelvis; involution begins promptly after the birth of the child, continuing over a period of a number of weeks. The laboratory indicates that in most cases that come to examination, involution is well advanced by the end of the sixth week. In some individuals it takes two weeks; in some it is fairly complete in less than six weeks. But we should keep in mind that during this period the pelvic muscles are below normal in tone and that during that time there should be no unusual strain brought to bear on the pelvic tissues. The worst strain is probably straining at stool, due to constipation. Next is that which comes from the patient being on her feet as she does work around the house which is heavier than she ought to under-

take. That is to say, before involution is complete, she undertakes duties around the house which bring a strain on the pelvic floor.

Another thing the laboratory teaches us is in regard to frank injuries to the pelvis, as laceration of the perineum. Such injuries take from 60 to 90 days to heal. Of course apparent healing takes place quickly but the scar tissue does not come to its maximum toughness until from 60 to 90 days after the injury or when we sew up the perineum. It is important to remember that at the end of two weeks the tissue is not as strong as it will be at the end of three weeks and that we ought to guard against undue strain on these injured and lacerated tissues.

DR. BENNER, Springfield: *Mr. Chairman and Fellow Members*—I think we should thank Dr. Kosmak for coming here from New York, first because he is Dr. Kosmak and secondly because he is editor of the *Journal of Obstetrics and Gynecology*, which is the best journal on these two subjects in this country—at least we think so in Western Massachusetts.

It seems to me that a normal, happy puerperium results if a patient can be brought to her labor in good condition, and if she is spared unnecessary pain and loss of blood during her labor. If a patient comes to her labor in poor condition and is allowed to undergo the ordeal without sedatives and to endure a long second stage, she becomes ready prey, in her weakened condition, for infections or other complications.

In regard to pituitrin, I have used it for about four years as a routine after the birth of the child, before the placenta is expressed, and feel sure that with the stronger contraction of the uterus less blood is lost and post-partum hemorrhage prevented. For three days after the birth of the child, I have followed DeLee's routine of giving ergot to help involution and express any retained clots or membranes.

I have found it difficult to keep nurses from stuffing the patients with drinks of various kinds between meals, upsetting their digestion and thereby defeating the purpose they are attempting to accomplish. I believe patients have as much or more milk if they are permitted their three meals a day and no extra nourishment unless they wish it.

A patient's convalescence is often made unpleasant by a routine cathartic. If a patient is allowed to take the laxative which she was accustomed to take before the birth of the child, with an occasional enema, she is much happier.

In regard to the care of the bladder, I try every means to avoid catheterization, as I have seen a severe cystitis result in a patient who was catheterized only twice. On the other hand, I have had patients catheterized for two weeks with no sign of infection.

Dr. Kosmak did not speak about nursing and

the care of the nipples. It does not seem to me that Comp. tincture benzoine, bismuth and castor-oil and the other preparations we use help a great deal. I often wonder how much is gained by treatment of the nipples during pregnancy. I think four-hourly nursings and not allowing the baby to remain at breast for more than a few minutes the first three days have assisted materially in the prevention of cracked nipples.

In regard to rectal examinations, it is naturally a safer procedure in a teaching clinic, but in private practice, I believe two or three vaginal examinations carefully made give more information and cause no harm.

I should like to ask Dr. Kosmak if he uses the Sturmdorf operation frequently in the severe leucorrhea sometimes following childbirth?

Discussion closed by DR. KOSMAK: I appreciate very greatly this opportunity and thank the Society for its invitation to appear before you.

REPORT OF COMMITTEE FOR THE STUDY OF "RECURRENT TOXEMIA OF PREGNANCY"

Two years ago the chairman of the obstetrical section of the Massachusetts Medical Society, on vote of the members of this section, appointed a committee for the study of "Recurrent Toxemia of Pregnancy" throughout the State. In order to make this study of any value it was necessary to have the co-operation of the members in this section. This co-operation has not been forthcoming. It is obviously desirable that the members of this section, especially those with hospital service, where good records are kept and where there is a considerable amount of toxemia seen, report their cases, past and present, to the chairman of this section so that they may be incorporated into a report to be made this June. The chairman will be most willing to answer questions regarding this work and to supply blanks for the record of the cases which should then be mailed to him.

FOSTER S. KELLOGG, *Chairman*.

WEEKLY HEALTH INDEX SUMMARY

Telegraphic returns from 66 cities with a total population of 29,000,000 for the week ending October 2 indicate a mortality rate of 11.0 as against 10.9 for the corresponding week of last year. The highest rate (18.6) appears for Nashville, Tenn., and the lowest (6.5) for Lynn, Mass. The highest infant mortality rate (178) appears for Columbus, Ohio, and the lowest for Somerville, Mass., and Springfield, Mass., which reported no infant mortality.

The annual rate for 66 cities is 13.5 for the 40 weeks of 1926, against a rate of 12.8 for the corresponding weeks of 1925.

ORIGINAL ARTICLE

A CASE OF CANCER OF THE BLADDER APPARENTLY WELL FIVE YEARS AFTER TREATMENT WITH RADIUM*

BY GEORGE GILBERT SMITH, M.D., F.A.C.S.

ALTHOUGH it is true that the report of an isolated case is seldom of much value, nevertheless the fact that certain results have been accomplished by a given method may be worth recording. This is particularly so when the case is one of bladder carcinoma of high malignancy, for such cases are not often cured. In the case about to be reported, the growth was of such a character, and furthermore it was so situated that resection would have been almost impossible.

Destruction of the tumor, rather than excision, was indicated. The same result would probably have been reached no matter whether radium or electrocoagulation had been used, provided that in either case the entire tumor was subjected to the action of the agent employed. If I were doing the same case today, I should probably use electrocoagulation, because the resulting burn cleans up more rapidly, as a rule, than does a radium ulceration. In this particular case, however, the radium burn healed with unusual rapidity, and in the light of the latter history of the case, no better results could have been hoped for.

Huntington Hospital No. 211287.

Shoemaker of 43, came to the Huntington Hospital on November 3, 1921.

Chief Complaint—Hematuria, pain after voiding.

Present Illness—Has complained of pain after voiding for past four months. Three months ago he noticed blood in his urine. M.D. told him he had inflammation of the bladder and gave him some medicine without relief. Consulted another doctor, who sent him to M. G. H. Examined there and referred to Huntington Hospital.

Past History—General health good. Erysipelas over entire body four years ago. Is married—no children. Sleeps poorly—nocturia 6-7 times. Appetite fair. Bowels regular. No loss of weight.

Family History—Negative.

Local Examination—*Cystoscopy*. Bladder wall clean and smooth except in lower right quadrant where there is a roughened, elevated, partly necrotic area about 1½ x 1 inches in diameter. This can be felt by rectum as a thickness in bladder wall which is movable and not adherent to pelvis or to prostate. Left ureter seen. Right ureter not seen and is thought to be included in the growth.

Clinical Diagnosis—Carcinoma of Bladder. To have operation and implantation of seeds.

Admitted to hospital November 8.

Physical Examination—Negative except for a B. P. of 180/96.

Urine—Amber, turbid, acid. Sp. Gr.—1.020. Albumin—trace; sugar—negative. Sediment—Many pus cells. Few red blood cells, coarsely granular casts epithelial cells and calcium oxalate crystals.

November 9. *Operation*. Ether.

Bladder filled with boracic. Trendelenburg's position. Median suprapubic incision from pubes to within ½ inch of umbilicus. Bladder opened. Wall thick

ened and surface clean. No tumor seen except just outside of right ureteral ridge where there is a sessile, elevated, slightly ulcerated growth, about the size of a fifty cent piece. Right ureter not made out as its orifice was apparently included in the mass. Two pieces excised for examination. The tumor was cauterized sufficiently to destroy the surface, to a depth of a quarter inch in most places. Around the periphery were implanted 6 glass seeds of radium emanation of 2 millicuries each and 4 seeds of 3 millicuries each; one seed of 3 millicuries was implanted into the center of the growth, making a total of 27 millicuries.

Bladder and wound washed with alcohol and bladder closed about a suprapubic tube.

Suprapubic cystostomy with cauterization of tumor and implantation of radium seeds.

Pathological Report—Microscopic examination of a piece of tissue about two cm. across, shows carcinoma. The cells are pleomorphic, atypical and generally undifferentiated, but in a few places they are somewhat differentiated toward the squamous cell type. They are arranged in columns and masses in a cellular stroma.

There is no gland tubule formation. Mitosis is present.

Diagnosis: Squamous cell carcinoma of high malignancy.

POSTOPERATIVE NOTES

November 23—Suprapubic tube removed, two weeks after operation, and urethral catheter inserted.

November 28—Patient had several chills and temperature which rose to 105. Slight tenderness over right kidney. Rectal examination showed some tenderness over right bladder base, but no evidence of a pelvic abscess. It was thought that the chills and fever were due to a right pyelonephritis, caused by edema about the ureteral orifice.

December 11—Urethral catheter removed.

December 22—Patient discharged from hospital.

February 2, 1922—Has gained 14 pounds since going home. Voids 4 or 5 times a day and twice at night.

Cystoscopy—Bladder generally clean. The area formerly occupied by the tumor consists of a deep hollow, the bottom of which is covered by a slough. This area is surrounded by a zone of edematous mucosa. Right ureter not identified.

March 16, 1922—Patient feels perfectly well and is back at work. Urine slightly cloudy.

Cystoscopy—The depression in the right side of bladder is now lined with mucous membrane. No sign of malignant disease in the bladder.

Rectal Examination—No more thickening on right side of bladder than on left.

Since this time the patient has been cystoscoped every six months. The urine cleared up and an orifice which looked like a slightly gaping ureter was noted, situated in the upper wall of the depression. The patient was last seen October 28, 1926, practically five years after his operation. He then felt perfectly well and had no urinary symptoms; had gained weight and was in excellent general condition. No masses were felt in the abdomen.

Cystoscopy showed a clean, smooth bladder, the mucous membrane everywhere being pale and free from areas of congestion. The prostate was not prominent. At the right edge of the trigone was a shallow depression with smooth edges, lined with normal appearing mucous membrane. There was absolutely no sign of recurrence of his tumor.

*From the Huntington Memorial Hospital.

**Case Records
of the
Massachusetts General Hospital**

ANNE-MORTEM AND POST-MORTEM RECORDS AS USED IN
WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 12471

CONTINUED FEVER, CAUSE UNKNOWN

MEDICAL DEPARTMENT

An Armenian sixty years old, a sweeper in a cotton mill, entered the hospital June 26 for study of the cause of pain in the shoulder. The history was taken through an interpreter.

Eight months before admission he began to have continuous dull non-radiating pain between the scapulae and along the costal margins, made worse by exertion, and also aggravated along the costal margins by deep breathing and coughing. Since the onset he had been dyspnoic, his bowels had been constipated, and he had passed less urine but more frequently, increasing from once to three times at night. Six months before admission he was in bed two days with swollen feet and ankles. Four months before admission he was jaundiced. The color gradually faded and for a month had been normal. Four months before admission he began to cough and to raise a quarter of a cup of white sputum a day. Since the dyspnea had been getting worse the pains and the cough had grown better. In eight months he had lost seventeen pounds, and had steadily lost strength. He had been in bed all the time until the past two months, when he had felt better and had been up sometimes.

His family history is a list of deaths by fright or violence in Turkish massacres. Two healthy children remained.

He was exposed to dust and freshly dyed cloth in his work.

In childhood he was ill in bed a month with an unknown fever. At eight he had a sore on the cheek lasting six months. (Oriental sore?) At fourteen he had a nervous disease, with movements of the arms and legs. (Chorea?) At forty-seven he had pain in the chest when doing heavy work. For ten years he had had occasional shooting pains in the abdomen. At fifty-six he had "poisoning" lasting six months, probably dermatitis from his work. It improved on stopping work.

Examination showed an emaciated man, moderately ill. There was marked brown pigmentation of the face, hands, arms, trunk, genitals and mucous membranes of the mouth. The mucous membranes were pale. The teeth were poor.

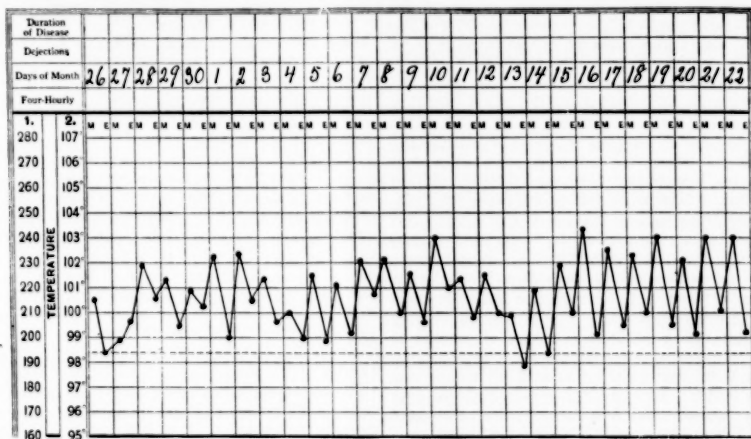
There was pyorrhea. The inguinal glands were enlarged, one to three centimeters, soft and discrete. The supraclavicular fossae were sunken. The ribs flared. Adherent to the tenth, eleventh and twelfth ribs in the left axilla was a soft, tender tumor measuring four by six centimeters. There was slight dullness at the apex of the right lung and moderate dullness at the left base below the angle of the scapula, with decreased voice and breath sounds. There was loud harsh breathing at the right apex. The location of the apex impulse of the heart is not recorded. The supracardiac dullness was seven centimeters. There was no other enlargement to percussion. The action was regular, the rate increased. The sounds were of poor quality. The blood pressure was 105/55 to 75/35. The temporal and brachial arteries were tortuous. There were small veins on the lower abdomen. There was much gurgling. There was costovertebral tenderness, more marked on the left. Rectal examination showed the right lobe of the prostate enlarged, extending upward in the direction of the right vesicle. The pupils, reflexes and fundi were normal.

The urine was normal in amount except on July 2, when there was sixty-two ounces; cloudy at nine of eleven examinations, alkaline at two, specific gravity 1.013 to 1.022. The sediment showed one to occasional leucocytes at four examinations. The renal function was 50 per cent. Blood at entrance showed hemoglobin 60 per cent., reds 3,312,000, leucocytes 5,700, 40 per cent. polynuclears, 24 per cent. lymphocytes, 1 per cent. eosinophils, 35 per cent. unclassified, "mostly like large mononuclears, some like myelocytes"; next day 36 per cent. unclassified, "more like myelocytes than like mononuclears"; July 3, 33 per cent. polynuclears, 5 per cent. mononuclears, atypical lymphocytes 7, atypical mononuclears 44, unclassified 5, one blast, one megacaryocyte seen, marked achromia and stippling, moderate poikilocytosis, anisocytosis and polychromatophilia, platelets much increased and abnormally large. Oxidase stain showed 84 per cent. cells with granules and 16 per cent. without granules. In later smears, as the hemoglobin and red count fell the achromia, anisocytosis and poikilocytosis became less marked. July 26 hemoglobin 50 per cent., leucocytes 3,300, reds 2,120,000, achromia, moderate poikilocytosis, anisocytosis, with many large macrocytes, but few tiny true microcytes, occasional polychromasia, infrequent stippling, polynuclears 48 per cent., a quarter of which were definitely immature, lymphocytes 10 per cent. (?), 6 per cent. were atypical blasts not of the red cell series, resembling lymphocytes, 38 per cent. atypical white cell blasts varying in size and shape, about the standard type of large mononuclear cell, 6 per cent. of young polynuclears in the metamyelocyte stage; no parasites, normoblasts or megacaryocytes seen, but there were

a few huge platelets; platelets not decreased in number. July 30 reticulated cells 1.4 per cent. August 11 hemoglobin 40 per cent., leucocytes 4,300, polynuclears 73 per cent., lymphocytes 16 per cent., large mononuclears 8 per cent., atypical lymphocytes 3 per cent., platelets decreased, slight achromia and anisocytosis, very little poikilocytosis, stippling present. August 13 hemoglobin 40 per cent., reds 2,096,000, moderate achromia and anisocytosis, 3,750 leucocytes, slight poikilocytosis, platelets scanty, 3,750 leucocytes, 63 per cent. polynuclears, 17 per cent. lymphocytes, 10 per cent. large mononuclears, 10 per cent. atypical cells, mononuclears or possibly immature polynuclears. Wassermann negative. Non-protein nitrogen 30 milligrams. Blood sugar 81 milligrams. Sputum showed

about the same as that last observed. July 27 X-ray showed no marked change since the last observation. The lung markings from the hilus to each base were prominent, especially on the right. There was some coarse mottling present. The costophrenic angles were obliterated. The medial border of the shadow in the region of the right costophrenic angle was well defined and somewhat rounded in appearance. August 8 the character of the process in the chest was about the same as at the last observation. It seemed to have increased slightly in extent.

The temperature for the first four weeks is shown in the chart. The pulse was from 90 to 110 until the last week in the hospital, when it was from 100 to 130. The respiration was 20 to 47.



blood at four of eleven examinations, a variety of organisms, no tubercle bacilli.

X-ray July 1 showed nothing significant in the skull, ribs or dorsolumbar spine. The diaphragm was high on both sides. The lung markings extending from each hilus were increased in prominence. The diaphragm was indistinct on the left. The costophrenic angle was obliterated on the left and partially obliterated on the right. A barium enema passed without delay to the cecum. Various portions of the colon appeared normal. No definite evidence of organic disease of the stomach or duodenum. Another examination three days later gave the same findings. At a second chest examination July 15 the changes at the right base appeared to have increased since the last observation. The right diaphragm was now rather indistinct. The costophrenic angle was obliterated by a shadow of uniform increased density the medial portion of which was fairly well defined. The interlobar septum near the periphery on the right was visible. The appearance on the left was

July 3 a few small discrete glands were felt in the neck and axilla, besides those in the groins. The spleen was not felt. A urological consultant found the prostate slightly enlarged, adenomatous, not malignant, and thought the tumor on the twelfth left rib was a cold abscess. A culture of pus from this tumor showed staphylococcus aureus.

July 10 operation was done. Three days later a medical consultant reported, "I do not think a diagnosis of Addison's disease can be made. Has he something under his right diaphragm?" An X-ray consultant thought radiation would be advisable if only as a diagnostic measure. There were riles at the right base. July 16 a right lower chest tap gave 870 cubic centimeters of slightly turbid straw colored fluid, specific gravity 1.017, 28,800 cells. Loeffler's stain showed a few polymorphonuclear leucocytes, Wright's stain no cells, Gram stain no organisms; cultures sterile; guinea pig negative. Blood cultures August 3 and 9 sterile. July 16 microscopic examination of a small fragment from

the back showed chronic inflammation; no evidence of tuberculosis. July 20 there was fluid again at the right base. A dry tap was obtained. X-ray treatment was started July 21 and finished July 27. The patient was not much better. July 29 he seemed quieter. The abdomen was much softer. There was resistance and tenderness in the epigastrium along the right costal margin. August 6 the râles in the right base seemed to extend higher in the back and axilla. The wound was not healing. Biopsy done on a gland from the groin showed no evidence of malignant disease. Microscopic examination of a piece of tissue excised from the draining sinus in the wound showed tubercle bacilli.

August 23 he was discharged to a hospital for chronic care, where he died September 19.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

There is certainly a great variety of symptoms. I do not get much of the picture as yet. There is diffuse pain in his chest, dyspnea, constipation, increased urine at night, swollen feet, jaundice, cough with sputum, loss of weight and strength—various organs and possibilities pointed to.

The family history is not particularly useful for our purposes.

Not knowing more about the dust and the dye, the record does not help us to know whether it was any occupational disease.

We might perfectly well guess that the sore on the cheek was an Oriental sore. The scar is ordinarily fairly typical. We ought to get some check on it at physical examination. Of course Oriental sore is leishmaniasis in its local form.

The pain in the abdomen might well be due to constipation or other unimportant cause.

If the physical examination does not throw more light on the history we are going to be in trouble with this diagnosis. So far I have no particular idea as to what is the matter with him.

NOTES ON THE PHYSICAL EXAMINATION

Many Armenians are brown. The main question is whether this pigmentation is more than an Armenian ought to have. I take it those who did the examination thought it was or they would not have put it down any more than they would in a Negro or in anyone whose color is naturally brown. Therefore, this was an abnormal pigmentation and not his normal color.

Of course a gland measuring three centimeters is quite a large gland.

We should like to know a little more about

that tumor. What are some of the possibilities of it?

STUDENTS: Lipoma. Fatty tumor.

DR. CABOT: What is said here that does not go with that tumor?

A STUDENT: It is tender.

DR. CABOT: You do not expect it to be. There might be some other lesion causing tenderness mixed up with it.

There was harsh breathing at the right apex. What do you think about the signs at the right apex?

A STUDENT: They are normal.

DR. CABOT: They could be. If you had them at the left apex you would think more of them. The left base of course we cannot tell about until we know what is below the diaphragm.

The heart shows very little enlargement. That to me would mean nothing.

This is certainly an extraordinarily low blood pressure, and in any patient, even an Armenian, whose skin is only partly pigmented we think of the possibility of Addison's disease. It is a good thing to keep in mind, to be referred to later if we get more evidence.

"The temporal and brachial arteries were tortuous." I resent that statement. Of course the temporal arteries ought to be tortuous, the brachials ought not. One is perfectly normal, the other abnormal. You should say the temporals are more tortuous than they ought to be, if you are to mean anything.

So far I can see nothing but this possible pigmentation and this very low blood pressure.

There was no lack of the renal power to concentrate urine. I should say a very good pair of kidneys, so far as any evidence before us is concerned.

"Thirty-five per cent. unclassified." That is a pretty wise thing to do unless you know your stain very well. It is as much as can be said ordinarily. We must remember all the time that our total white count is only five thousand. That might perfectly well be a normal differential count, the examiner looking at it a little more carefully than usual. About the only striking thing is the very severe anemia, down to two million, with characteristics which on the whole are like secondary rather than like primary anemia, although this is not perfectly clean cut. The white cell picture is not clearly that of any known disease, not leukemia or anything else that I know of. If anybody up to this point in the case is sure of the cause of anemia he is much clearer about the case than I am. Anemia is the obvious presenting fact, but what is behind it I do not know.

In the X-ray of the bones they were looking for metastases from a possible hypernephroma. The X-rays are not significant of anything in particular that I know of. It looks as if there were a small amount of fluid in each chest and as if those signs in the left base did mean some-

thing in the chest rather than the abdomen. I do not remember so far any clear account of the abdomen; perhaps it is coming later.

"There was some coarse mottling present." That is the most important thing said about the lungs. What it means I do not yet know.

In the presence of any continuous fever of that duration I always go back to observations I made many years ago. In a series of a thousand cases of continuous fevers in this hospital something like ninety-five per cent. turned out to be one of three things, tuberculosis, typhoid or sepsis. I always ask myself the question "Is this one of the common long fevers, tuberculosis, typhoid or sepsis?" We will go back to that later.

The spleen was not felt. I take it the liver was not.

The consultant thought the tumor was a cold abscess. That is interesting.

I do not know on what part of the body operation was done.

BIOPSY JULY 6

A lymph node from the groin about the size of a lima bean, showing on microscopic examination no evidence of malignancy.

PRE-OPERATIVE DIAGNOSIS

Abscess of the back.

OPERATION

Under local novocain an incision about two inches long was made in the left flank over the most prominent point of the swelling in line with the eleventh rib. About an ounce of thick creamy pus was evacuated. No sinus could be discovered leading into any body cavity. No bare bone could be discovered, and apparently no osteomyelitis was present. The pus was thoroughly evacuated. A rubber drain was inserted.

PATHOLOGICAL EXAMINATION JULY 16

A small fragment from the back showing on microscopic examination chronic inflammation. There is no evidence of tuberculosis.

FURTHER DISCUSSION

Of course even medical consultants do not say all that they mean. Presumably he has something under his right diaphragm. I do not know what the consultant thought, whether it was a tumor, an abscess or a normal liver. Do you happen to know, Dr. Hunter?

DR. HUNTER: He thought it might be subphrenic abscess.

DR. CABOT: Not the only thing one might think of. There isn't much else to suggest it except the fever and the low grade abscess on his ribs.

These X-ray plates do not help us to be sure of anything more than we found by tapping.

There is nothing in the lungs that I can recognize.

I take it the X-ray treatment was given to his chest.

The abdomen is now much softer. I suppose it had been distended with gas.

We should not have been told about the tubercle bacilli.

DIFFERENTIAL DIAGNOSIS

Let us go over the facts, putting them together. Chronic fever and a marked secondary anemia. I take it to be secondary. I do not believe it is primary, although the evidence is not perfectly clear. There is nothing peculiar about the fluid from his right base. It might go very well with a transudate from poor circulation, or with a tuberculous pleurisy, or neoplasm in his chest. We have nothing to indicate poor circulation while he was in the hospital.

A STUDENT: Normally do you have twenty-eight thousand cells in transudates?

DR. CABOT: I cannot answer that question. The counting of cells in pleural fluid does not seem to me of much importance. What do you think, Dr. Means?

DR. JAMES H. MEANS: The total count is very variable.

DR. TRACY B. MALLORY: I think it would depend on where you tapped the chest. If you tap the upper portion you may get no cells, if the lower portion, many cells.

DR. CABOT: Yes, they always try to go as low as they can. I do not know about cell counts in transudates.

In the nervous system we have nothing, in the digestive system nothing. The respiratory system shows no real evidence. In one chest there are some signs suspicious of what might be a miliary tuberculosis of his lungs. There is no evidence of gross tuberculosis of his lungs from the X-rays. We have nothing in the spleen or liver. The urinary tract and the kidneys seem to be negative. I do not know any better way than to come back to the starting point that I spoke of before, the chronic fever. Can it be typhoid? It is not characteristic of that. Can it be tuberculosis? It can, so far as I see. Can it be sepsis? The blood is not at all like that. We have no evidence of a septic focus, though the medical consultant apparently thought of one under the diaphragm on the right.

A STUDENT: How about the staphylococcus aureus?

DR. CABOT: I do not think that we can argue much from the staphylococcus aureus. I suppose that might perfectly well be from the skin, there being nothing significant anywhere else. It could be a local process perfectly well, not extending elsewhere.

A STUDENT: Is that chart characteristic of

tuberculosis, high in the morning and low at night?

DR. CABOT: I am glad you pointed that out. I had not observed that. It does not happen in the majority of cases. It is not characteristic, although I have seen it. It is as characteristic of tuberculosis as of anything else. I have nothing to say about that.

DR. MALLORY: Have you ever seen individual patients, Dr. Cabot, who in a series of fevers always present the high fever in the morning and low at night? I know of one case in which it happened in two successive fevers. It was apparently a peculiarity of the person.

DR. CABOT: I remember a patient at the Channing Home who had a chart just like this. It is not peculiar to tuberculosis or any other trouble that I know of.

DR. MALLORY: The patient I saw had typhoid the first time, with fever always high in the morning and low at night; the second time a septic sore throat, and the same thing occurred.

DR. CABOT: I still do not see how Addison's disease can be excluded. It has not much of the clinical course of Addison's disease. The tuberculous disease is apt to be in the adrenals alone and when it is there and nowhere else it does not produce high fever; but if you had it as a part of general tuberculosis it might give the signs in this case. Addison's disease does not always produce an anemia, but neither does tuberculosis elsewhere.

If we say that he has tuberculosis, where is it? That is my great difficulty in making that diagnosis. I cannot say where it may be. It is rather a long illness for miliary tuberculosis. He did not have it for a long time here, but he has been sick apparently for a number of months. Can he possibly have it in his spine? There is no evidence of stiffness. Of course we cannot always exclude tuberculosis of the spine, but I do not see any good reason to say he has it there. I can see no reason to put it in his kidney. He certainly hasn't it in his brain.

A STUDENT: How about mediastinal tuberculosis?

DR. CABOT: I never heard of mediastinal tuberculosis. Is there any such thing, Dr. Means?

DR. MEANS: I do not recall a case.

DR. CABOT: I think we will disregard it.

A STUDENT: How about tuberculosis involving the glands about the pancreas and the portal system, with a subdiaphragmatic abscess following that, and tuberculosis?

DR. CABOT: I cannot possibly deny that diagnosis. I have never seen such a case, but I certainly cannot disprove it.

A STUDENT: How about tuberculous peritonitis?

DR. CABOT: We know rather little about the abdomen. They said it was softer at one time. We did not know before what it was, and there is nothing said about fluid in the abdomen.

A STUDENT: How about malignancy with metastasis?

DR. CABOT: Where will you put the malignancy?

A STUDENT: I thought possibly primary carcinoma of the lungs.

A STUDENT: Would you expect bloody fluid?

DR. CABOT: Yes, you would, but even without that I should say you had to exclude it.

A STUDENT: How about Hodgkin's disease?

DR. CABOT: I do not know what the incidence of Hodgkin's is,—if we were to take a hundred cases and run them down how many would be Hodgkin's. I think the incidence of fever in Hodgkin's is very high. This fever might very easily be Hodgkin's, but the question is whether we can get enough evidence of Hodgkin's elsewhere. I think from the fever he might perfectly well have Hodgkin's.

I can make no better diagnosis than that of sepsis. I do not think that is very satisfactory, because again I do not know where to say it is most active, but still it seems to be more likely than anything else I can think of.

A STUDENT: What about the tubercle bacilli?

DR. CABOT: I was trying not to consider that, since we ought not to have been told it.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Tuberculosis of the pleura of the lungs.

DR. RICHARD C. CABOT'S DIAGNOSIS

Sepsis.

Cold abscess.

ANATOMICAL DIAGNOSIS

Tuberculosis of the lungs.

Tuberculosis of the peritoneum.

Tuberculosis of the bronchial, mesenteric and retroperitoneal lymph nodes.

DR. MALLORY: The head was not examined.

There was an open draining sinus in the left chest at the level of the fifth rib toward the posterior axillary line. The sinus at this time did not apparently communicate with the chest, the abdominal cavity, or with any of the ribs so far as could be made out. In making the incision through the upper tissue of the xiphoid region at the insertion of the sternum foul pus welled up. The anterior chest wall was removed with great difficulty, and both pleural cavities were found to be completely obliterated by adhesions. It was apparently impossible to remove the lungs on this account without tearing into them. Section through each lung showed multiple abscesses some of which were evidently caseous; some contained rather firm purulent secretion. Through the lung parenchyma there were groups of discrete nodules which were somewhat translucent.

The pericardial cavity also was entirely obliterated by adhesions. The heart could not be

separated from the lung tissue. The chambers were opened, and the valves and chambers proved negative.

The mediastinal glands and the glands around the bronchi and the region of the thymus were enlarged and firm. On section most of them showed thick yellow pus with a fetid odor.

The abdominal cavity contained no fluid. On the peritoneum were a few scattered raised nodules each about three millimeters in diameter. They were smooth, somewhat translucent. There were a few similar nodules along the intestines.

The rectal fat was negligible in quantity.

The mesenteric and retroperitoneal glands were enlarged, some of them caseous; some showed pus on section, others were of firm consistence. The glands around the crura of the diaphragm were enlarged. They also showed pus on section.

The kidneys were negative.

The adrenals were negative.

The spleen was about three times its normal size, very much engorged, soft and friable.

The liver was slightly enlarged. In the left lobe there was a yellow nodule about one centimeter in diameter. It was firm, not caseous.

The intestinal tract was not opened.

Dr. Francis T. Hunter, who did the gross pathology, brought back a small portion of the lung which we saw here. It had in it many firm areas that varied in size from small and not entirely opaque ones 2 to 3 millimeters in diameter, up to ones two to three centimeters in diameter, then larger caseous areas. Some had broken down and were probably secondarily infected and contained a good deal of pus. A portion of diaphragm was adherent to this piece, and there were caseous nodules in the diaphragm itself. I judge from Dr. Hunter's description that the lesions in the peritoneum were probably small tubercles.

Microscopical sections of the lungs showed a very widespread fibrosis and very definite tuberculosis, with central necrotic areas surrounded by endothelial leucocytes, giant cells and lymphocytes, and often a thick connective tissue capsule around that. The fibrosis was very widespread and quite marked through the portion of the lung that I saw. As far as I could make out the process was entirely tuberculous, with a moderate degree perhaps of secondary infection of the bronchi on top of that.

The bone marrow was moderately hyperplastic, but that is all.

DR. CABOT: The adrenals were negative.

A STUDENT: How do you explain the pigmentation?

DR. CABOT: I should think it was a wrong observation. It was probably racial.

CASE 12472

PROBLEM: THE CAUSE OF A HEMIPLEGIA WHICH DISAPPEARED

MEDICAL DEPARTMENT

A widowed American shoe factory operative fifty-one years old was referred to the Out-Patient Department from the Eye and Ear Infirmary January 29 for study of the cause of failing vision.

Examination in the Out-Patient Department showed sluggish pupillary reactions, slight cardiac enlargement and arrhythmia. The patient was referred to the wards, to which she was admitted February 2.

The history was obtained from a sister with whom the patient had been living. January 11 she had a left sided paralysis and pronounced thickening of speech. The following day her mouth was drawn toward the left. She did not lose consciousness. After four days she was able to use her left extremities about as well as before. By the advice of her physician she did not attempt to care for herself. Two days before her admission to the hospital she complained of pain in the left chest anteriorly and became more restless and irritable. From that time to the morning of admission she had slight fever, pain in the chest and between the scapulae, but no cough or other symptoms. During the illness she had had marked frequency, scanty very dark colored urine with sediment, and disagreeable breath. She had lost fifteen pounds (?) during the past six weeks.

Her father had kidney trouble (?) and died of heart trouble. Her mother died of shock. The patient had had two miscarriages. She slept poorly, four or five hours. She had had scarlet fever; otherwise she had always been well and strong and a vigorous worker.

Clinical examination showed an obese woman, irrational, in no apparent pain. The location of the apex impulse of the heart is not recorded. Percussion was unsatisfactory. The measurements obtained were left border 9 centimeters from midsternum, $\frac{1}{2}$ centimeter outside the midclavicular line, right border 4 centimeters to the right, supracardiac dullness 6 centimeters. The action was rapid. The sounds were of good quality. There were no murmurs. The blood pressure was 170/95. Electrocardiogram showed paroxysmal tachycardia (auricular), rate 210, questionable flutter; arrhythmia due to varying conduction; possible retrograde auricular action in lead II. The lung signs were as shown in the diagram. There was possible slight generalized abdominal tenderness. The pupils were slightly irregular. The fundi were normal. Pelvic examination was not done. There was vaginal discharge. The ankle-jerks were increased, the knee-jerks much increased. There was a suggestion of the clonus on the right not sustained.

The amount of urine was 76 to 33 ounces. There is no record of a urine examination. Blood examination showed 16,000 to 27,250 leucocytes, 90 per cent. polynuclears, hemoglobin 90 per cent., 4,024,000 reds, smear normal, Wassermann negative. Non-protein nitrogen 29 milligrams. Blood culture negative.

The temperature was 105° by rectum at entrance, falling to 98.4°. The pulse was 80 to 123, the respiration 23 to 60.

The orders were for individual precautions, forced fluids, soft solid diet, caffeine in ten or

effusion or solid with pneumonia, and fremitus would help us.

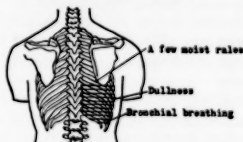
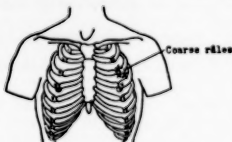
The non-protein nitrogen is low.

I do not quite see why, in the course of three days, we should not have had a urine examination recorded. But in a hospital there are slips of this kind, and occasionally it does not get recorded.

DIFFERENTIAL DIAGNOSIS

Did we examine the brain in this case?

DR. MALLORY: Yes.



five grain doses every two hours. Beginning February 5 quinidine sulphate gr. vi by mouth; when vomited gr. vi in two ounces of water with half an ounce of tincture of digitalis by rectum; if not retained, digifolin two ampules in each arm, to be repeated in two hours. (The digifolin was given.)

The paroxysmal tachycardia was somewhat slowed down by vagal pressure. February 5 the patient died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

Our presenting symptom is failing vision.

Up to the beginning of the physical examination we have failing vision, hemiplegia, and then something that sounds like an acute respiratory infection with pain in the chest and fever. We are thinking therefore about some underlying brain lesion, presumably arteriosclerotic, and then of acute infection which might well be pneumonia.

NOTES ON THE PHYSICAL EXAMINATION

Why was percussion unsatisfactory?

A STUDENT: Because of fat.

DR. CABOT: That is one good reason. Of course if the patient was irrational it might easily be that some noise was going on. Then in elderly people generally the changes in the shape of the chest and distension of the lungs very easily obscure percussion limits.

What else should we like to know about the right base, besides the percussion note and the respiratory signs? Fremitus is very important in a case like this, just as important as either of the two signs given. That is, fremitus is ordinarily decreased with fluid and increased with solid. This is just the kind of case where it is hard to know whether we have fluid with

DR. CABOT: We should discuss it if we can be confirmed on that.

From paroxysmal tachycardia, which she certainly had, what can we infer about the heart post mortem? We can infer nothing. We can have that with a great variety of lesions of the heart, and with no lesion at all of the heart.

Those signs in the lungs, coming on as they do in a woman of her age, coming on with these physical conditions, these signs, this temperature, I think we have a right to call pneumonia. I do not think we can say what type, whether a lobar or a bronchopneumonia. I do not think we are at all certain of that diagnosis, but it seems to me rational.

Of course that was not the thing that brought her to the hospital. She certainly on the 11th of January had some cerebral lesion, and I do not see why we should think of that as anything but a vascular trouble, a hemorrhage, acute softening, of embolism, thrombosis; between those I do not know of any way to decide.

A STUDENT: Wasn't that rather a rapid recovery for a hemorrhage?

DR. CABOT: Yes.

A STUDENT: How can softening recover?

DR. CABOT: Of course the softening does not recover, but the brain often takes up, in ways that we do not know much about, the power of causing voluntary movement. After hemorrhage we can get recovery of movement without of course the destroyed part being ever recuperated.

A STUDENT: Would one get increased ankle-jerks and clonus?

DR. CABOT: Of course the only characteristic thing would be Babinski and clonus on one side. Here it was apparently on both, but more on one, "not sustained." There is nothing there to help us that I see. The typical thing would be a definite Babinski with paralysis. I do not see that we can say anything more.

A STUDENT: How about possible gummata

of the brain? She had two miscarriages.

DR. CABOT: I have not seen a gumma for so long now that I have got tired of prophesying it. Either they are going out or pathologists are changing their terms. We do not get it at this hospital.

A STUDENT: Can you rule out encephalitis lethargica?

DR. CABOT: I think we can. We start with a paralysis and speech trouble. We do not hear of much in the way of drowsiness. We do not hear of anything in the way of facial paralysis or diplopia,—I mean separate paralysis of the cranial nerve. We have no study of the spinal fluid, which would help us. **We have no motor restlessness, choreiform movements.** I should say we can rule it out.

A STUDENT: Nephritis? She had a pale skin.

DR. CABOT: We did know very little about the urine, and that makes it more possible to say nephritis. It is perfectly possible that there is nephritis here. I do not see how we can say one way or the other. She has no edema. The systolic blood pressure is rather high. The heart so far as I know is not enlarged. But I do not know any way to rule nephritis out. My guess is that she has not got it.

A STUDENT: Is that blood pressure normal?

DR. CABOT: No, I think it is not normal; but when we have a cerebral lesion, as we have here, it is hard to say how much can be due to the cerebral lesion without anything in the periphery.

A STUDENT: Cerebral syphilis?

DR. CABOT: I should say that unless there is a good deal more evidence **than we have here** it is better not to make that diagnosis. The pathologist very rarely backs it up. It is really amazing how seldom a bacteriologist backs one up in a diagnosis of syphilis—almost never.

A STUDENT: In chronic interstitial nephritis we should not have to have edema, and one of the first symptoms was failing vision.

DR. CABOT: All true.

A STUDENT: Don't you have change in the fundi? Here there is none.

DR. CABOT: There ought to be. I do not know why she had failing vision. That leaves that a mystery. But I am betting against nephritis.

A STUDENT: It seems to me that with the apparent hypertension and the cerebral hemorrhage we should expect some pathology in the heart.

DR. CABOT: At her age there is a good chance of some enlargement of the heart. To that extent. But we have very little to back it up. Cerebral hemorrhage of itself does not cause failing vision.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Hypertension.

Paroxysmal tachycardia.

Bronchopneumonia.

Old cerebral hemorrhage.

Chronic thrombosis (?)

DR. RICHARD C. CABOT'S DIAGNOSIS

Arterial lesion of the brain (hemorrhage, softening, embolism, thrombosis).
Probable pneumonia.

ANATOMICAL DIAGNOSIS

1. *Primary fatal lesions*

Arteriosclerosis of the vessels of Willis.
Areas of softening of the brain.

2. *Secondary or terminal lesions*

Lobar and focal pneumonia.
Purulent bronchitis.
Slight arteriosclerosis of the aorta.
Wet brain.
Soft spleen.

3. *Historical landmarks*

Obsolete tuberculosis of the bronchial glands and apex of the left lung.
Slight hypertrophy and dilatation of the heart.
Slightly defective closure of the foramen ovale.

DR. MALLORY: The pia was edematous and the vessels of Willis showed very considerable arteriosclerosis. The brain also was edematous, and in both lobes there were considerable areas of softening, each about three by two by one and a half centimeters. There was a third area of softening in the pons, at just about the midline, extending from its anterior border nearly to the posterior, and through almost, but not quite to the wall of the fourth ventricle.

The trachea and bronchi showed considerable reddish discoloration of the mucosa, and a good deal of mucopurulent material.

The right lung showed in the lower lobe a few areas of bronchopneumonia. The left lung showed a healed tuberculosis of the apex, and considerable bronchopneumonia in the other lobes.

The pericardium was negative. The heart weighed 340 grams, which would be a slight enlargement. The myocardium however appeared of normal color and consistency. The cavities were negative, the valves entirely negative except for slight sclerosis of the aortic valve. The coronary arteries showed a slight degree of fibrosis. The aorta showed a moderate degree of arteriosclerosis in the abdominal portion.

The kidneys' combined weight was 240 grams. The capsules stripped readily, the surfaces were smooth, the tissue of normal consistence and color. The markings were distinct. On microscopic examination the kidneys were negative.

So that bronchopneumonia and cerebral soft-

ening stand out as the two positive features in the case.

A STUDENT: What was the cause of softening?

DR. MALLORY: The severe arteriosclerosis of the cerebral vessels, I presume.

A STUDENT: Why did she get the paralysis?

DR. MALLORY: In all cases of cerebral hemorrhage or softening we get a certain degree of repair after the accident takes place. If we stop the circulation to an area we always get edema. A transudate of fluid from the surrounding tissues comes in at first in profusion, but as that begins to absorb we get relief. A great many of the mental symptoms come from pressure. In poliomyelitis we get edema and a collection of leucocytes about the ventral horn cells, and loss of function results from pressure on the nerve cells. It almost invariably clears up in part at a later time, sometimes entirely if no necrosis has occurred. A portion of the damage here was certainly due to edema which afterwards cleared up.

A STUDENT: Was it caused by hemorrhage?

DR. MALLORY: There was no evidence at all of hemorrhage. It was simply a tightening down of the vessels from sclerosis and a consequent insufficient blood supply.

CASE 12473

A CASE OF VOMITING AND POLYDIPSIA FROM AN UNUSUAL CAUSE

MEDICAL DEPARTMENT

An Italian-American schoolboy seventeen years old entered August 25 complaining of loss of weight and appetite for the past six weeks.

Two years before admission he was in fine health and weighed 104 pounds. At that time he gradually began to drink a great deal of water, as much as three gallons, and six months later five gallons, drinking six times at night. He developed polyuria and began to lose weight. He ate little because of nausea, especially in the morning. He frequently vomited food recently taken, or before meals a green acid material. He urinated every half hour by day and every hour and a quarter at night, about six hundred cubic centimeters each time. His bowels became constipated, sometimes not moving for five or six days. Cathartics gave him discomfort, but no relief. He took enemata with good results. The stools were small hard lumps, brown, rarely with blood on the outside. Sometimes half an hour to an hour after eating he had dull sinking pain in the midepigastrium. He was not sure soda relieved him. Sometimes it made him vomit. He was put on a milk diet for a week. The milk curdled and was vomited. Two months after the onset he had to stop school because of the symptoms mentioned and "dry mouth." In November, two years before admission, he en-

tered a Boston hospital from which the following report was received: "Admitted November 28 complaining of polydipsia and polyuria of two months' duration. There was a definite polyuria. Urine specific gravity between 1000 and 1003, and excreted amount of urine varied between 4,500 and 14,000 cubic centimeters daily. During stay in hospital patient developed bilateral swelling of parotid glands, with normal temperature, which promptly subsided. Pituitrin was given without any effect. X-ray of skull negative. Blood and spinal fluid negative. Basal metabolism—24.3 per cent. Sugar tolerance normal. Physical examination negative. Blood and spinal fluid Wassermanns negative. Discharged December 28. Diagnosis: Diabetes insipidus." A month after returning from this hospital he went to another Boston hospital where he stayed five months. A year and a half ago after losing twenty pounds he went to a hospital where he was kept in bed five weeks taking pituitrin, three "injections," and a nasal spray. He had no relief. After going home he took pituitrin for four weeks, then stopped on his own responsibility. For a year after stopping pituitrin he remained in about the same condition, weighing 85 pounds, drinking five gallons a day, nauseated and constipated. A year ago he forced himself to move about more and to eat. He improved and gained up to 100 pounds. He drank only three gallons daily. His condition remained about the same until six weeks before admission, when he was violently shaken up and struck on the head and stomach by a policeman. He was taken to a hospital, becoming conscious just before he reached it. He vomited his dinner. He was sent home the same day as "all right." (According to the Social Service record he was in the hospital several days.) For the following four weeks he vomited every meal, but not water. Sometimes he could keep down malted milk. Medicine given by a physician made him vomit much green material and pass much green material in his stools. It made him weak, but he could eat better. For the past month and a half he had had a return of "dry mouth." He drank two or three quarts a day and urinated four or five times by day and once or twice at night. Three weeks ago his physician said he was yellow. During the past three weeks he had lost twenty-five pounds and three-quarters of his strength. He had no abdominal tenderness. For the past two weeks he had been eating a little. He drank two or three quarts a day and urinated four or five times by day and once or twice at night. His bowels required an enema for every movement. Drinking water made him feel cold.

The hospital at which he made the five months' stay mentioned above reports that the boy had been a patient there on two or three occasions. His last discharge was August 9, two

weeks before his admission to the Massachusetts General Hospital. The impression at that time was, "This patient seemed not to be a neuro-surgical case. Gastric ulcer ought to be ruled out. I have the impression that this boy is a psychopath with abnormal emotional reactions."

His family history showed nothing significant.

He had pneumonia at two years, diphtheria at four, whooping cough at seven, tonsillitis with tonsillectomy at twelve, influenza and chicken-pox at thirteen, mumps, bronchitis and asthma with dyspnea at fourteen, measles at fifteen. At twelve he had a vein cut in his nose for bleeding; no trouble since that time. Nevertheless "he had always been well until the present illness." For the past three years he had had frequent colds in the winter with cough and sputum, generally lasting throughout the winter. He had lost twenty-five pounds in the past six weeks. His story was considered intelligent and reliable.

Examination showed an emaciated boy with very dry light brown skin, slightly darker on the face and arms. There were small hard discrete anterior and posterior cervical, axillary and inguinal glands. The bony structure of the chest was prominent. There was slight increase in dullness and tactile fremitus with bronchovesicular breathing at the right apex and vocal fremitus slightly diminished. There were no râles. The apex impulse of the heart was not located. The sounds were of poor quality. The action was regular. The left border of dullness was 7.5 centimeters from midsternum, half a centimeter outside the midclavicular line. There was no other enlargement to percussion. The blood pressure was 85/55. The abdomen was scaphoid. It was held very rigid. Palpation was difficult. No abnormalities were made out. Rectal examination showed a small pea-sized nodule apparently in the mucosa over the prostate. The extremities, pupils and reflexes were normal. The fundi were negative. The retinæ showed dark diffuse pigmentation.

The amount of urine was 54 to 150 ounces, specific gravity 1.005 to 1.014, alkaline at two of eleven examinations, neutral at four, no albumin or sugar, rare to occasional leucocytes twice. Renal function 15 to 50 per cent. Blood examination showed 5,000 to 7,600 leucocytes, polynuclears 64 to 45 per cent., hemoglobin 60 to 75 per cent., 3,750,000 to 4,400,000 reds, slight achromia at two of three examinations, slight anisocytosis at one. Wassermann negative. Sputum negative. Stool negative. Non-protein nitrogen 28 milligrams, sugar 78 milligrams. Icterus index 7-5. Schlayer test September 2 showed specific gravity 1.004 to 1.007, total day amount 2600, night 2030; September 5 specific gravity 1.006 to 1.010, total day amount 1530, night 570.

Records of the Out-Patient Department November 3, two years before admission, show a visit for constipation, vomiting, indigestion and

loss of appetite. The observations are covered above, except a note of very bad diet. November 13 the twenty-four hour amount of urine was three gallons, specific gravity 1.005, no albumin or sugar. X-rays of the skull showed the sella turcica rather small but normal in shape. The pineal gland was visible and unusually dense. Its position was normal in both the anteroposterior and the lateral views. There was nothing unusual in the appearance of the bones of the skull. The suture lines were visible. The lung fields were clear. The heart shadow seemed unusually small. A film of the urinary tract failed to show any evidence of stone. The kidney outlines were not visible. The spine was not remarkable. A barium meal and barium enema showed no evidence of organic disease.

The case gave an increasing impression of being a functional one. On threat of the stomach tube there was no more vomiting. He was allowed to be up and about in the yard, but stole water and bought an ice cream cone through the fence. He was put to bed on a limited fluid allowance for three days, then given fluids ad libitum and sterile hypodermics for three days, then pituitrin for three days, with no effect on the intake and output of fluids. September 3 a neurological consultant reported, "I believe that there is a neurotic element here, but the patient gave no facts which could rule out diabetes insipidus. The patient certainly reacted in a neurotic manner to the affair with the policeman and has made the most of it."

A lumbar puncture September 11 gave 15 cubic centimeters of clear colorless fluid, initial pressure 100, pulse and respiratory oscillations normal, combined jugular compression 280, right jugular compression 230, left 240, jugular release 70, after withdrawal of 5 cubic centimeters 70, after withdrawal of 5 cubic centimeters more 60; cells, 15 lymphocytes; alcohol positive, ammonium sulphate the slightest possible trace, definite though faint ring, Wassermann negative, total protein 39, goldsol 1121000000.

September 14 another neurologist reported, "No evidence of intracranial lesion. However, I advise (1) fields of vision, (2) repeat lumbar puncture in a week and see if slight pathology is again demonstrable, (3) basal metabolism." September 15 an oculist reported, "Fields and vision normal."

Another lumbar puncture September 19 gave clear colorless fluid, 18 cells, all leucocytes, Wassermann negative, alcohol and ammonium sulphate positive, total protein 53, goldsol 2222110000, pulse and respiratory oscillations normal, initial pressure 10, combined pressure 200, return 15, after the first cubic centimeter 0. The second neurologist reported, "I cannot make a diagnosis."

September 24 the patient had swelling of the parotids and upper lip accompanied by a burning sensation. The following morning he showed a huge swollen upper lip, tender parotids and edema of the uvula. He had a history of this before, when it was thought to be mumps. A throat consultant found the throat and nose negative. The sinuses transilluminated perfectly.

The morning of the 25th he passed 2500 cubic centimeters of urine between 7 and 11 a.m. The pupils were dilated and did not react (atropin and adrenalin). The vessels of the disc were full, but the disc margin was clear. The mother said the patient had been subject to attacks of "asthma" and "bronchitis." He had had none for three and a half years. September 24 an anaphylaxis consultant reported, "The patient is hypersensitive as manifested by skin tests, although all the foods are negative. There is no known definite relationship between pituitary disfunction and allergic disease in general."

September 25 a puncture between the fourth and fifth lumbar vertebrae gave 10 cubic centimeters of clear colorless fluid, initial pressure 50, jugular compression 250 both right and left, return 40-60. After withdrawal of 5 cubic centimeters and 10 cubic centimeters the pressures were below the manometer base. Pulse and respiratory oscillations normal. 21 cells; one questionable crenated red cell seen. Of the white cells one was a large mononuclear, the others lymphocytes. Ammonium sulphate the very slightest possible trace. Alcohol negative, sugar 44, goldsol 1221000000, total protein 44. Gastric analysis September 26: fasting contents, 8 cubic centimeters of white acid mucoid material, guaiac positive, free acid 0, total acid 10; microscopic, occasional yeast spores. Test meal, one cubic centimeter of colorless acid watery material with very little sediment, guaiac negative, free acid 0, total acid 1-. A microscopic examination showed yeast.

October 2 the pituitrin was omitted, as it seemed not to have much effect. A medical consultant reported, "... but there is probably a further abnormality, and I am wondering if he is not one of the undersized anterior pituitary deficiencies one sees occasionally. This is only a question, not a definite suggestion."

October 6 the patient was again having attacks of polyuria with nausea, anorexia and malaise. October 8 he was started on anterior pituitrin. His condition grew distinctly worse. During the next week he vomited and would not eat enough to keep up his nutrition. October 15 the basal metabolic rate was minus 16, pulse 136, weight 28.6 kilos. October 19 the first neurologist reported, "A long interview showed no further leads save a strong reaction against his father and suggestion on the patient's own

part that when he has been happy and things going well at home he has had increased appetite and has gained weight. I believe this is a case in which neurosis plays a large rôle. Whether this has set off the autonomic nervous system or the reverse has occurred I cannot say. I suggest a prolonged period of tube feeding, three days at least. He can digest raw olives, so the vomiting is surely not due to gastric pathology." October 22 tube feeding was stimulating his appetite. He remained in practically unchanged condition for the next five days, eating very little, but taking more by tube feeding. The weight remained stationary. The fluid intake and output were high. A plan was made to see if anything could be done for him by hypnosis.

DISCUSSION

BY FRANCIS T. HUNTER, M.D.

In a long confusing gastro-intestinal history like this we ought to think first of all of abdominal tuberculosis. He obviously has diabetes insipidus, and if he had abdominal tuberculosis he might possibly have a single tubercle at the base of the pituitary; but under these circumstances it seems to me that he ought to have gone downhill more quickly than he has.

I suppose, with the story of sputum and cough and the loss of twenty-five pounds, tuberculosis becomes even more a good bet.

The low blood pressure suggests very strongly that he has Addison's disease.

The blood sugar is low, and I suppose also suggests Addison's disease.

The first Schlayer test looks like an attempt to concentrate at night and suggests a chronic nephritis. But on the next day the relationship of the day and night amounts was essentially normal.

Apparently there was no tumor of the pituitary itself. I presume that the appearance of the pineal gland means calcification, which is common.

I think a small heart is rather the rule with a long standing low blood pressure.

I believe it is generally understood that for polydipsia and polyuria, if it is true diabetes insipidus, pituitrin is really specific.

DR. CABOT: I do not know. I had heard that it does good in most cases, but that it always does I do not know.

DR. HUNTER: I think the other hospitals have that impression.

As to the spinal fluid, the dynamics at all three lumbar punctures were normal. Fifteen lymphocytes is an increase. The total protein of fifty-three on the 19th is abnormal. The goldsol consistently showed a considerable change.

I think the outstanding thing in the whole

case is that he has had gastric symptoms, has lost weight, has had swelling of the parotids, swelling of the upper lip, and changes in the spinal fluid; he has an apparently real intermittent diabetes insipidus, unless the pituitrin is a diagnostic test. I do not know about that. With everything else negative I think we can make only one diagnosis which would explain his whole condition. We should have to make a secondary one of neurosis, but this disease occurs so frequently in neurotics that it does not change our feeling about it.

In 1882 Quinke described the disease known as angioneurotic edema. Osler later gathered twenty-nine cases. There is apparently a definite family tendency, as Osler reported a family five generations of whom had the disease. It affects all ages and all conditions of life, from infants of a few months to people of seventy-five, and may involve almost any part of the body. I have found listed in the files of this hospital twenty-one cases. I could not find the record of one, which leaves twenty. I was rather surprised to find that nine of the twenty has abdominal complaints, vomiting or pains or both, and frequently constipation. Three were operated upon for gastric symptoms. One was a nurse, who had abdominal pain and vomiting. A diagnosis was made of appendicitis. A normal appearing appendix was removed. The pain and vomiting continued and she later developed edema of the lip. The second case was reported by Harrington in 1905, a case with apparently an acute abdomen. A portion of the gut five centimeters long was found to be swollen and edematous. The third case was very interesting because it was the only one in which the tissue was resected. There was a huge edematous swelling of the cecum. The diagnosis at operation was carcinoma. The pathologist returned a report of extreme serous swelling of all the tissues, and a diagnosis of angioneurotic edema of the cecum.

There is very little in the literature about the spinal fluid findings in Quinke's disease when it hits the meninges. Most of the observations on serous meningitis from this cause have been made in South America. There was one case I ran across that did have increased cells and protein with an increased pressure. As this boy's spinal fluid was negative at both the other hospitals, it seems that the meningeal pathology must be a more recent development.

The point is, is his vomiting cerebral? I do not believe it is with such a low pressure of the spinal fluid. We can have edema of the stomach. One observer happened to put down a stomach tube during an attack of vomiting and brought up a piece of mucosa which on section showed marked edema. Whether he has edema localized around the base of the pituitary or

whether his diabetes insipidus is purely functional I cannot say.

As to treatment, in the old days they gave calcium lactate. That seems to help some cases a great deal; in most, however, all therapy is valueless.

The prognosis is rather good. Occasionally these patients get edema of the glottis, sudden respiratory obstruction and die unless tracheotomy is done. One of the cases in this hospital had apparently an edema of the lung, an area of consolidation appearing suddenly and disappearing just as quickly, but he recovered. If they do not die of edema of the glottis the attacks tend to lessen in frequency as the patient gets older.

DR. CABOT: Do you see any special advantage in going after him with hypnosis?

DR. HUNTER: He is neurotic. I think if he could be made to adjust himself to his situation he would be a lot better. I do not think it will affect his angioneurotic edema at all. They were rather taken aback at the first hospital when the "mumps" appeared and apparently disappeared on the following day. It did not occur to them that this was angioneurotic edema.

So far as the importance of this disease is concerned, I do not know that we can say much about it except that the surgeon might have it in mind as a possibility in abdominal cases, especially if he gets a history of previous swelling of the lip or eyelid. Osler in one of his papers seems to feel that it is related to the rheumatic diseases, especially to peliosis rheumatica. It is interesting to note that of the twenty cases in this hospital twelve had a definite history of scarlet fever, tonsillitis or rheumatism, and two of these had rheumatic heart disease. This boy has had tonsillitis frequently and has had his tonsils out, so there is no hope for therapy in this direction.

A PHYSICIAN: Did you try adrenalin on him?

DR. HUNTER: Yes. It did no good.

LATER NOTE

November 17. The patient is making great improvement under psychotherapy, and has gained seven pounds and a half.

DIAGNOSIS

Quinke's disease (angioneurotic edema).

THE BOSTON Medical and Surgical Journal

Established in 1828

Published by The Massachusetts Medical Society under the jurisdiction of the following named committee:

For three years HOMER GAGE, M.D., *Chairman*
EDWARD C. STREETER, M.D.
EDWARD W. TAYLOR, M.D.
For two years WILLIAM H. ROBEY, JR., M.D.
ROGER I. LEE, M.D.
ROBERT B. OSGOOD, M.D.
For one year JOHN W. BARTOL, M.D.
HORACE D. ARNOLD, M.D.
CHANNING FROTHINGHAM, M.D.

EDITORIAL STAFF

DAVID L. EDRAILL, M.D.
REID HUNT, M.D.
FRANCIS W. PRABODY, M.D.
JOHN P. SUTHERLAND, M.D.
GEORGE R. MINOT, M.D.
FRANK H. LAHEY, M.D.
STEPHEN RUSHMORE, M.D.
HANS ZINSSER, M.D.
BENJAMIN WHITE, F.R.C.P.
HENRY R. VINTS, M.D.
ROBERT N. NYE, M.D.
SHIELDS WARREN, M.D.

WALTER P. BOWERS, M.D., *Managing Editor*

ASSOCIATE EDITORS

GEORGE G. SMITH, M.D.
WILLIAM B. BREED, M.D.
JOSEPH GARLAND, M.D.

SUBSCRIPTION TERMS: \$6.00 per year in advance, postage paid for the United States, \$7.25 per year for all foreign countries belonging to the Postal Union.

Material for early publication should be received not later than noon on Saturday. Orders for reprints must be sent to the Journal office, 126 Massachusetts Ave.

The Journal does not hold itself responsible for statements made by any contributor.

Communications should be addressed to The Boston Medical and Surgical Journal, 126 Massachusetts Ave., Boston, Mass.

THE LEAGUE OF NATIONS AND PUBLIC HEALTH

ONE of the most hopeful lines of international co-operation, one in which there is almost complete unanimity of opinion, is the promotion of public health. It is natural that an international body with aims altruistic in theory at least, should interest itself in the warfare against disease. There is nothing that unites different peoples as does a common danger, such as epidemic disease, or an appeal for help made necessary by some great calamity. The Health Section of the League of Nations has done not a little valuable work particularly with regard to the standardization of various immunologic and serologic procedures. Naturally this work has attracted more attention in Europe than in this country.

Recent action by the Health Section of the League lays the foundation for a world-wide battle against disease. The Rockefeller Foundation is so pre-eminent in work of this type that it is not surprising that its methods are to be studied and the co-operation of its workers is to be requested.

In December a Pan-Pacific Conference will be held at Melbourne to investigate disease con-

ditions and to plan modes of attack against disease throughout the islands of the Pacific. It is expected that the United States will be represented at this conference. Our interest in the Philippines particularly should lead to our participation.

One of the most pressing problems at the present time is the control of malaria. In Russia, Italy and the countries of Asia Minor in particular, malarial control is urgently demanded. So well organized and so efficient has been the work of the Rockefeller Foundation in our southern states that a special commission of the League experts has been appointed to visit the South and learn the anti-malarial methods in use there. Courses giving instruction in anti-malarial measures are about to be organized in the malaria-infested countries, and an international conference on quinine is soon to be held.

Efficient and valuable work along the lines of public health should do much to justify the existence of the League of Nations in the minds of skeptics, and should lead to a better appreciation of the aims and accomplishments of that body.

LETTING IN THE SUN

ORIGINAL studies on tuberculosis and rickets have demonstrated more clearly the generally accepted belief that the direct rays of the sun are of benefit to animal life. It has been shown that the ultraviolet ray is the ray of importance in this respect and it is known that the intensity of this ray varies with certain factors such as sun spots, and the quality of the media through which it must pass. In winter, for instance, when the more oblique rays of the sun must traverse the earth-atmosphere for greater distance than in the summer time, the ultraviolet rays are less intense and may suffer a considerable diminution in their power to heal and prevent rickets.

Most important of all, however, is the fact that ordinary window glass filters out these rays to such an extent as to render them practically valueless, and it is this failure of the proper solar rays to penetrate window glass that has emphasized the need of out-door solaria and has stimulated the use of such artificial substitutes as the mercury vapor quartz lamp and the carbon arc lamp.

Quartz glass, extremely limited in its availability by the difficulties of manufacture, permits the passage of the ultraviolet ray, and within two years the scientific world has heralded with enthusiasm the development of a method of manufacturing quartz glass in a perfected and workable form. The quartz glass of the General Electric Company, however, excellent as it is for many purposes, is prohibitive in price for ordinary use.

It is of extreme interest therefore, from a practical point of view, to learn that within recent months a glass has been produced in Birmingham, England, of high quartz content, that will permit the passage of the ultraviolet rays. We now know that a glass has been produced in this country and will soon be put on a commercial basis, that transmits 86 per cent. of sunlight's ultraviolet content as against a former maximum transmission coefficient of 35 per cent. for commercial glasses. The new glass, two millimeters thick, is practically as stable as window glass and only slightly more costly.

We were so recently deploring the excessive cost of quartz glass, running into hundreds of dollars for a window, that it seems almost miraculous to have an acceptable substitute so soon within our reach. There is no reason for failing to believe that the glass making industry may soon be revolutionized to the hygienic advantage of mankind.

THIS WEEK'S ISSUE

CONTAINS articles by the following authors:

FRIEDMAN, L. V., A.B., M.D. Harvard Medical School 1900. F.A.C.S. Professor of Obstetrics, Tufts College Medical School. His subject is "Diet in Pregnancy. An Attempt to Control the Weight of the Baby." Page 1015. Address: 15 Bay State Road, Boston.

KOSMAK, GEORGE W., A.B., M.D. Columbia University 1899. F.A.C.S. Editor, *American Journal of Obstetrics and Gynecology*. His subject is "Postpartum Care." Page 1019. Address: 23 East 93rd Street, New York City.

SMITH, GEORGE GILBERT, A.B., M.D. Harvard Medical School 1908. F.A.C.S. Urologist, Massachusetts General Hospital; Surgeon, Huntington Memorial Hospital; Chairman, Section of Urology, American Medical Association; Member American Association G. U. Surgeons and American Urological Association. His subject is "A Case of Cancer of the Bladder Apparently Well Five Years After Treatment with Radium." Page 1028. Address: 7 Marlborough Street, Boston.

LEGISLATIVE NOTES

A BILL INTRODUCED BY THE DEPARTMENT OF PUBLIC HEALTH OF MASSACHUSETTS

MASSACHUSETTS 1927

AN ACT to Provide for the Purchase of Radium by the Commonwealth to Alleviate Distress Caused by Cancer

The Department of Public Health is authorized to purchase radium for the benefit of per-

sons afflicted with cancer within the commonwealth. This radium, or the radio-active substances derived therefrom, are to be used at the Norfolk State Hospital and elsewhere as the Department of Public Health may designate under such rules and regulations as it may promulgate. The Department of Public Health may entrust the radium to the institution or institutions that are in its judgment best equipped for the proper care and handling of the same. For the purchase of said radium the sum of one hundred and twenty thousand dollars is appropriated.

Each year for a period of not less than ten years there shall be an appropriation made of not less than ten thousand dollars in order to provide for the care of the radium and the extraction, purification and distribution of the radio-active substances in such forms as may seem most advantageous to the Department of Public Health in order to guarantee the continuation of service.

MISCELLANY

CHRISTMAS SEAL SALE

WIDE-SPREAD interest in the forthcoming sale of Christmas Seals has been manifested by enthusiastic meetings held recently at Pittsfield, Greenfield, Fitchburg, Worcester, Springfield, Taunton, Boston, South Hanson and Nantucket. These meetings were held under the auspices of the affiliated organizations of the Massachusetts Tuberculosis League. Other meetings are scheduled within the next ten days for Middleton, Holyoke, Lawrence and Framingham.

Dr. Kendall Emerson of Worcester, President of the State League who has just been elected Representative Director of the National Tuberculosis Association from Massachusetts, announces that the League and its affiliated organizations in 1927 will engage in an intensive campaign against tuberculosis among industrial and business workers.

The mortality from tuberculosis, while it is being reduced among children and people of advanced age, still remains the leading cause of death between the ages of 15 and 40. It is to reduce the extent of tuberculosis among this group at the productive period of life that this campaign will be waged through clinics, health education and follow-up of arrested cases among the working people.

The National Tuberculosis Association has announced that it has been necessary to print one billion, four hundred and eighty-seven million Christmas Seals for this year's campaign.

In 1925 Massachusetts was sixth among the states of the Union in the sale of Christmas Seals, the total amount sold in the Commonwealth being 229,862,000 or an average of 5.8

per capita. The National Tuberculosis Association has fixed a quota for 1926 of 251,000,000 for Massachusetts which calls for a per capita sale of 7 cents in the Commonwealth.

SOME IMPRESSIONS OF THE CONVENTION

ON Thursday, October 14, the fifty-fifth annual meeting of the American Public Health Association came to a close. Nearly two thousand delegates had been in attendance from all parts of the United States, Canada and Mexico. That the convention had been a success was voiced on all sides.

It was physically impossible to attend each of the fifty-odd sessions had there been any desire to do so. But it was conveniently possible to make up a varied program from the nine general sessions, and so secure a well rounded view of the latest advances in public health. Meeting rooms were close together so no time need be wasted in making a quick change and a special directory in each room kept one constantly posted as to the speakers "now going on" at other sessions.

The *Daily Bulletin*, the convention official organ was a good example of the effective publicity which the section of Health Education and Publicity was always talking about. It presented the daily news of the convention in so concise yet complete a form that an information desk was hardly necessary. To show how eagerly all sections took advantage of this the bulletin of four pages soon increased to eight to make room for all the important announcements. Another publicity feature was the making available of an abstract of each paper in mimeographed form so that delegates might become familiar with the whole convention proceedings almost as soon as papers were given. This of course applied only to those papers which were presented to the committee in advance.

No luncheon or dinner hour was allowed to pass without some round table discussion for special groups. The publicity section arranged for daily luncheon meetings of two or more such groups. Attendance at each was limited to twenty-five to encourage free discussion of the problem at hand.

The question of ventilation which came to the forefront in the 1925 program, enjoyed a full session this year. Here public health workers, school authorities and ventilating engineers freely discussed some of the difficulties and agreed to make ventilation a common study during the coming year with ventilation in relation to the health of the school child as the criterion of success.

The general sessions were well attended as notable speakers were on the program. The address of the president, Professor C.E. A. Winslow directed one's thoughts to the advance in

all lines of public health and suggested the possibility of the day when health will be maintained for all individuals through a co-operative effort of private and public health officials. The trend of all health addresses was toward prolongation of life through the adoption of those factors in right living which not only protect one against disease but promote general well being.

Mention must be made of the cordial welcome accorded the convention members by the local committee. The key to the city was literally extended to them and a special compliment paid the visiting health officials when they were invited to become deputy health commissioners during their stay, and as such feel free to inspect and criticize the public health "machinery" of Buffalo.

Dr. Charles V. Chapin, Health Officer of Providence, R. I., was elected president of the association for the coming year. The next convention will be held at Louisville, Kentucky.—*Bulletin of The Connecticut State Department of Health.*

SOME REACTIONS TO THE SMOOT BILL FROM THE MEDICAL PRESS

THIS is a bill introduced by Senator Smoot, (S. 4085) inflicting fine and imprisonment on physicians who prescribe narcotics to addicts unless they are first committed to sanitariums. Since it is recognized in medical practice that successful treatment of narcotic drug addiction necessitates employment of narcotics to a certain extent, the conclusion is plain that the object of the bill is to make treatment of private patients impossible.

The Board of Directors of the White Cross, New York, sensing the danger, immediately adopted a strong resolution opposing it which was sent to Senator Smoot. The White Cross Board at Seattle promptly supported this New York action by adoption of the same resolution, as follows:

Whereas, There was introduced in the Senate of the United States on April 19, 1926, a bill (S. 4085), to strengthen the Harrison Act of December 17, 1924, as amended; and

Whereas, It would seem desirable for the Congress of the United States, in connection with the consideration of such proposed legislation, and before any new legislation is enacted, to review the field of narcotic regulation with a view to adopting legislation which will conform the regulation of such trade to the situation as developed by such an investigation. Now, therefore, be it

Resolved, That the White Cross, Inc., request Honorable Reed Smoot, a member of the Senate, and Honorable Stephen G. Porter, a member of the House, to obtain a Federal investigation by a committee to be appointed for that purpose, of the narcotic situation in this country, with a view to obtaining a better understanding of the narcotics evil, and the adoption of such legislation as such an investigation will suggest.

—*Bulletin of The White Cross.*

SIR WILLIAM OSLER MEDAL



THE Boston Medical Library has recently been fortunate in having presented to it a copy of the Osler Memorial Medal, and the more fortunate in that the Library was one of the extremely limited number of institutions to which such copies of the medal were sent before the dies were handed over to the University of Oxford. The medal was the more welcome as during Osler's life he had on many occasions shown his great interest in the Library and its collections.

Shortly after Osler's death a committee was formed at Oxford to establish a memorial to him, with Sir Herbert Warren, President of Magdalen College, as Chairman. Some ten thousand dollars were raised and three proposals were considered, all of which were carried out. A bronze memorial plaque was unveiled at

Oxford on June 10th, 1925. Dr. A. G. Gibson of the Oxford Medical School was assisted in a study trip to Denmark, and the Osler Memorial Medal was founded. This medal, in gold, is awarded once in five years "to the Oxford Medical Graduate who in the opinion of the Board of Awards has made the most valuable contribution in the Science, Art, or Literature of Medicine, and who has not previously received the medal." It was awarded for the first time in 1925 to Sir Archibald Garrod, the very efficient secretary of the Osler Memorial Committee.

Remembering Osler's love both of investigation and of all relating to the history of Medicine it would seem that no more fitting memorial of him could have been designed than this beautiful medal.

M. S.

FLEXNER DISSENTS ON CAUSE OF
SLEEPING SICKNESS

THE attempts of European scientists to prove that the invisible organisms producing encephalitis, or sleeping sickness, are the same as those producing herpes (cold sores in man) are refuted by experiments conducted by Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, according to a statement by Dr. Flexner at the closing meeting of the National Academy of Sciences, held at the University of Pennsylvania.

Ever since the first epidemic of sleeping sickness in the western world, which began in Austria in 1919 and spread to other nations, scientists have been at work endeavoring to locate the invisible organism responsible for the disease.

In the last three or four years several Europeans have stated that their researches led them to believe the germs located in herpes were simi-

lar to those producing sleeping sickness, but nobody has as yet been able to isolate the germ producing sleeping sickness.

TESTS WITH INVISIBLE GERMS

In his report Dr. Flexner dealt with the group of disease-producing organisms below the limit of visibility even with the strongest microscope known. He explained that these minute organisms are known by their effects on man and animals, in which they produce such definite diseases as foot-and-mouth disease in cattle and infantile paralysis in man. He described experiments with such invisible germs contained in herpes eruptions, which when inoculated into rabbits induce an inflammatory condition of the brain (encephalitis), resembling the brain disease present in sleeping sickness found in the temperate climes of man.

Several European investigators, continued Dr. Flexner, believe that the "virus" of herpes, as the invisible organism is called, may, under

suitable circumstances, produce the encephalitis in man. Dr. Flexner reported that his experiments which began five years ago, do not confirm this point of view, thus leaving the causes of sleeping sickness undetermined.—*The New York Times*.

SEAL SALE AHEAD

From present indications, it is believed that at least \$5,000,000 will be realized from the seal sale of 1926. A consistent and healthy growth has marked the sale during the past three years, the average increase being approximately a third of a million per year, or a total of \$1,000,000 since 1923.—*Bulletin National Tuberculosis Association*.

WORLD'S BEST MICROSCOPE COMING HERE. THE INVENTION OF J. E. BARNARD.

J. E. BARNARD, British scientist who formerly made hats, is the inventor of the best microscope, known as the ultra-microscope, so powerful and so complex in mechanism as to produce unbelievable results. It will be shipped from



London to the Rockefeller Institute in New York. The instrument will magnify twelve million times, is capable of being adjusted to a millionth part of an inch.

Photo shows Mr. Barnard (seated) and an assistant.

PREVENTIVE MEDICINE IN THE ARMY AS IT AFFECTS CIVILIAN LIFE

THE Army Medical Department has many achievements to its credit which have been of immense benefit to the civilian population. It was an Army Medical Board in Cuba that discovered that yellow fever is transmitted from man to man through a certain kind of mosquito. As a result

of this discovery yellow fever has become practically non-existent throughout the world.

The Army took up the use of typhoid vaccine, which had been tried out during the Boer War, but had to some extent fallen into disrepute. The Army adopted the vaccine and demonstrated its value. With more than 4,000,000 men under arms during the World War the Army had slightly less than 2,000 cases of this disease and only about 10 per cent, or 200, resulted in deaths.

During the Spanish-American War, before the introduction of the vaccine, with only about 150,000 men under arms, there were 20,000 cases of typhoid and about 2,000 men died. Expressed comparatively and in other terms, it may be said that for every one case of typhoid during the World War there were 150 cases during the Spanish-American War.

The use of the prophylactic vaccine against typhoid has spread to civil life.

Smallpox is another disease which has lost most of its terror inspiring qualities since vaccination became prevalent. Here, too, the Army demonstrated that vaccination was an effective method of prevention. The Army has unique advantages in work such as this, in as much as it is able, through military discipline, to make sure that personal sanitary precautions are taken against disease. This, of course, is a factor which enables it to study the results of a given method with greater ease and more hope of accurate determination than is conceivable in civil life.

At present the great fight in the Army is against venereal disease and results are apparent here too. It has been found by a study of the records that after all wars up to the World War there was an enormous increase in venereal disease. After the World War, however, the prevalence of these diseases decreased. Those who had expected, on the basis of past experience, that it would require about eight years before venereal disease could be brought back to its pre-war level, were greatly surprised. In 1920 the figures show that 79 out of each 1,000 men in the Army were infected, while for 1925 there were 52 out of each 1,000.

ACCIDENTS AND DEATHS

THE recent Safety Congress in Detroit made public the fact that about 90,000 persons lost their lives in the United States in 1925 as a result of accidents occurring in industry, on the streets, highways, in other public places and at home. Hundreds of thousands of other persons suffered more or less because of accidents with a consequent loss which is estimated to amount to more than four billion dollars. The question intrudes itself with respect to the importance of details of all schemes for the education of children. Such prudence as is acquired by most people is the result of personal

experience or observation rather than the product of careful training.

Of course traffic conditions have brought about more or less advice to children, in industry the operatives are guarded by safety devices, boy and girl scouts are taught first aid treatments and literature abounds with instructions of various kinds but is it not probable that more persistent practical instruction could be given to pupils in the public schools as a part of the daily routine?

The greatest possible effort to promote prevention of this great loss of life and human efficiency is certainly warranted.

It is not generally realized that it is safer to travel on a railway train than to carry on the usual duties of the home routine but safety first in the home is a subject not generally taught. There is much knowledge which if applied in drilling children would eliminate many hazards.

RECENT DEATH

HOLMES—DR. HARRY BIGELOW HOLMES of Adams died at his home in that town, October 22, 1926, aged 63.

He was born March 5, 1863, in the town of North Adams, Mass., the son of Dr. Horace M. and Helen Ross Holmes; was educated at Williams College (A.B., 1885), and at the College of Physicians and Surgeons of Columbia University, New York (M.D., 1892). He returned directly to Adams and entered practice with his father. He suffered a cerebral hemorrhage some five years ago, and recently fractured his hip, which was followed by pneumonia, from which he died.

In 1897 he married Angie Sayles, who, with one daughter, Margaret, survives him. He was buried on his wedding anniversary.

He held the following offices in the Berkshire District Medical Society: Vice-president in 1908, President in 1909 and 1910, Censor in 1911, 1912, 1913 and 1914, and Commissioner of Trials in 1915, 1916 and 1917.

He was a member of the Draft Board for Northern Berkshire. He had been pension examiner for many years, and was medical examiner for Northern Berkshire. He had held many positions of trust in the town, church and Masonic orders.

OBITUARIES

EDWIN HOWARD BRIGHAM, M.D.,
1840-1926

In the minds of the older physicians of Greater Boston, the name of the late Dr. Brigham was so intimately associated with that of the Boston Medical Library that to think of one one was to think of the other. How many physicians look back with pleasure to the kindly talks on "Men, Manners and Medicine" which was their privilege to have with the late Assistant Librarian.

Dr. Brigham came of old New England stock, and was born in Boston on September 27, 1840. He was directly descended from Thomas Brigham, who settled in Watertown in 1637, and

was son of Elijah Sparhawk and Sarah Jane (Rogers) Brigham.

As a young man, Dr. Brigham's record in the Civil War was long and honorable. When a youth, just commencing his business career, he enlisted on May 1, 1861, as a private in the 4th Battalion of Rifles, which later became a Company of the 13th Massachusetts Infantry. He served in many engagements and was taken prisoner at the second Battle of Bull Run. He was paroled in time to join his regiment again at the Battle of Antietam.

In February, 1864, he entered the regular army as a hospital steward, remaining in the medical department of the service until 1875. He was stationed at Boston and entered the Harvard Medical School, graduating in the Class of 1868, in which were many who later became illustrious in medical annals. In 1875, Dr. Brigham began his association with the Boston Medical Library, which proved to be his future life work. He served the Library in various capacities for thirty-four years and saw the institution grow in size and increase in influence from the small beginnings in Hamilton Place to its present site in The Fenway. It has been truthfully said that the story of his life and that of the Boston Medical Library are one.

Dr. Brigham was also much interested in military historical matters and was the first librarian of the Military Historical Society of Massachusetts, and his collection of Civil War books and memoirs was very large.

In 1871, he married Jane Spring Peirce, daughter of Moses Peirce of Medford, who died in 1923. He is survived by a son, Ralph Peirce Brigham of Hanson, and by a daughter, Mrs. Albert T. Leatherbee of Dedham.

A number of years before his death, Dr. Brigham underwent a severe surgical operation which, though giving him relief, could not cure many distressing symptoms, and this was coupled with a chronic trouble dating from his military service years ago, the combination causing bodily discomfort which few would have borne as uncomplainingly as he did.

His friends, and they were legion, will ever look back with peculiar pleasure to the talks with him at the Library, in which kindness and interest in all that pertained to them, their careers and their families, were so deeply manifest.

His long and honorable military career and his unremitting work through the years in the Library he loved so well, speak for themselves as to what he was; above all, shines his deep interest in and loyalty to those privileged to call themselves his friends.

EDWARD CORNELIUS BRIGGS, D.M.D.

DR. EDWARD CORNELIUS BRIGGS, a Fellow of the Massachusetts Medical Society, one of Bos-

ton's leading dentists, died at his home in Chestnut Hill (Newton) of recurrent cancer of the bladder, November 6, 1926, at the age of 70. He had been ill for two years and had shown great fortitude in bearing the pain of two radical operations, one of them without a general anesthetic.

He was born in Lawrence, Sept. 6, 1856, son of Caleb Tucker Briggs and Emily Gray (Poore) Briggs, and was a descendant of John Alden and of Cornelius Briggs, who settled at Scituate about 1620. He prepared for college in the Lawrence public schools and received his degree of D.M.D. from Harvard dental school in 1878, and his M.D. from Harvard medical school in 1880. He began the practice of dentistry in Boston in 1878. His connections with Harvard dental school began in 1880, when he was appointed a clinical instructor. From 1883 to 1889 he was instructor in dental materia medica and therapeutics at the same school; assistant professor from 1889 to 1895, and professor from the latter year until 1915, when he became professor emeritus. He was a frequent contributor of articles on odontology and stomatology to scientific publications. Besides being a Fellow of the Massachusetts Medical Society, and a member of the American Medical Association, he belonged to the American Association for the Advancement of Science, American Academy of Dental Science, Harvard Odontology Society, of which he served as president in 1889; Harvard Dental Alumni Association, of which he was president in 1882; Society of Mayflower Descendants, Society of Colonial Wars, Sons of the American Revolution, the Country Club and Harvard Club of Boston.

Prior to taking residence in Newton, where he lived for the last 18 years, he lived in Lexington. He had a summer home, The Tamaracks, at Surry, Me. At his Boston office he had been associated with his brother, Dr. C. P. Briggs, also a graduate of Harvard Medical School, for the past 40 years.

He is survived by his second wife, who was Ethel McClure of Gerrish Island, Me.; a son, Templeton Briggs of Cincinnati; a daughter, Mrs. Charles W. Hubbard, Jr., of Weston; two sisters, Miss Emily E. Briggs and Miss Clarissa A. Briggs, both of Lexington; and two brothers, Dr. Charles P. Briggs of Lexington, and Caleb Tucker Briggs of Scarsdale, N. Y.

A forceful man of large and commanding presence he will be much missed in his community.

CORRESPONDENCE

A HANDICAP

Mr. Editor:

The Committee on State and National Legislation recently mailed to over 4,000 physicians a request that they should interview prospective members of

the incoming General Court and report back their attitude on school vaccination. My information is that however faithfully the first part of this request was complied with, the number of those who have reported is exceeding small. Unless the Legislative Committee is informed how individual members of the House and Senate stand on extension of vaccination to the private schools, it will be handicapped in its efforts to obtain the passage of what seems to it, to me and to others an important addition to protective measures against the introduction of smallpox into the State.

Sincerely yours,

SAMUEL B. WOODWARD.

SMALL POTATOES

Editor, Boston Medical and Surgical Journal:

In connection with the group insurance to be issued on the lives of employees of — Railroad Company I was asked by a large insurance company in another State for which I have been an examiner for many years to report on the physical condition of a prospective candidate for insurance. After a brief personal history, which was typewritten, I was asked to secure the applicant's signature. Then followed the Medical Examiner's Report, requiring statement of the diseases or accidents during the past ten years.

Have you hernia? Is it reducible?

Height. Weight.

Certificate of the Medical Examiner: I hereby certify that I have this day examined the above applicant and that I find him in good health in every respect except as stated below.

Remarks: M.D.

Note to the Medical Examiner: If the risk after examination of heart and lungs appears to be healthy simply state the fact, otherwise give full particulars. Also if in your opinion the risk is not a normal one give full particulars. Urinalysis or Blood Pressure readings are not required unless the age, appearance or history of the risk indicates the necessity thereof.

The blank was accompanied by a letter from the medical director of the company, the last part of which read as follows: "Will you please endeavor to complete this form, guiding yourself by the instructions contained in the lower left-hand corner, and when complete please send it direct to the Group Department at this office. Upon receipt of the medical report a fee of \$1.00 will be credited to your account."

I filled out the blank and wrote as follows:

"A thorough examination of the heart and lungs and other vital organs failed to reveal any abnormality." I then signed my name.

In an enclosed letter I wrote:

"Gentlemen: I am enclosing the completed examination of —, who called on me this afternoon. As my minimum charge for any professional service is \$2.00 I have credited this examination by discount."

I trust that other members of the profession will show a like generosity to a "poor" insurance company or a greater independence and decline to make the examination.

C. T. WARNER.

B. FRANKLIN—THE "WATER AMERICAN"— ON BEER DRINKING

October 21, 1926.

Editor, Boston Medical and Surgical Journal:

The following is from the Autobiography of Benjamin Franklin, the incidents written of taking place

soon after Franklin had reached London from Philadelphia. He had found employment in a printing-house, and gives this graphic description of the beer-drinking tendencies of his fellow-workers:

"At my first admission into this printing-house I took to working at press, imagining I felt a want of the bodily exercise I had been used to in America, where press work is mix'd with composing. I drank only water; the other workmen, near fifty in number, were great guzzlers of beer. On occasion, I carried up and down stairs a large form of types in each hand, when others carried but one in both hands. They wondered to see, from this and several instances, that the *Water-American*, as they called me, was *stronger* than themselves, who drank *strong beer*. We had an alehouse boy who attended always in the house to supply the workmen. My companion at the press drank every day a pint before breakfast, a pint at breakfast with his bread and cheese, a pint between breakfast and dinner, a pint at dinner, a pint in the afternoon about six o'clock, and another when he had done his day's work. I thought it a detestable custom; but it was necessary, he supposed, to drink *strong beer*, that he might be *strong* to labor. I endeavored to convince him that the bodily strength afforded by beer could only be in proportion to the grain or flour of the barley dissolved in the water of which it was made; that there was more flour in a pennyworth of bread; and therefore, if he would eat that with a pint of water, it would give him more strength than a quart of beer. He drank on, however, and had four or five shillings to pay out of his wages every Saturday night for that muddling liquor; an expense I was free from. And thus these poor devils keep themselves always under."

WM. PEARCE COUES, M.D.

12 Monmouth Court, Brookline.

TESTIMONIAL DINNER TO DR. AUGUSTUS S. DOWNING

November 5, 1926.

Editor, *Boston Medical and Surgical Journal*:

The committee on arrangements regarding the testimonial dinner to the Deputy Commissioner of the State Department of Education, Dr. Augustus S. Downing, desires to state—and asks your assistance in giving the matter publicity—the following:

Sufficient replies having been received to warrant the committee in arranging for a date, they have accordingly made arrangements at the Hotel Commodore, Forty-second Street and Lexington Avenue, New York City, December 9, 1926, at 7:30 P. M. The presiding officer will be Dr. Livingston Farrand, President of Cornell University, and the principal speakers of the evening will be Dr. Nicholas Murray Butler, President of Columbia University, and Dr. Wendell C. Phillips, President of the American Medical Association.

As Dr. Downing has served education for forty-two years, his influence naturally has been felt, and his recent efforts to elevate the standards of the professions connected with medical practice crystallized the idea of a fitting testimonial to his untiring zeal and energy in behalf of these professions. The replies that the committee have received from the prominent persons approached regarding this matter make us feel that the popularity of Dr. Downing will be attested by a host of friends. Therefore the committee would urge all to make early application for tickets so that arrangements can be made to accommodate everyone. The price of the ticket is \$7.50 per person. Kindly make your remittance to Dr. James Pedersen, 40 East Forty-first Street, New York City, treasurer for the committee.

The committee on arrangements desires the aid of your publication in paying adequate respects to a

great humanitarian and a most efficient public servant. Would you kindly give us space in your columns at your earliest opportunity?

Yours very truly,

S. DANA HUBBARD, M.D.,
Secretary for the Committee.

A REPLY TO THE CRITICISM OF THE ANALYSIS OF THE WORK OF REGISTRATION BOARDS

October 14, 1926.

Editor, *Boston Medical and Surgical Journal*:

I am pleased to see in the editorial pages of your September, 1926, issue on pages 693-94 a reference to an article which I wrote on Recent Licensing of Graduates of Inefficient Medical Schools and which was published in the *Federation Bulletin* for September, 1926.

The object of this article was to bring to the attention of the profession and the lay public a situation which certainly needs to be cured, and any criticisms of the article, favorable or unfavorable, are welcomed. I hope that the facts there brought together, from statistics available to anyone, may find their way into the lay press as well as into journals which reach only the profession.

There are certain statements in the editorial upon which I wish to comment. Objection is made to my including the Massachusetts Board of Registration in Medicine in the criticism, claiming exemption because of the law.

I distinctly stated, which is not quoted, "In these cases in which the statute is mandatory as to the admission of graduates of any medical school to examination the blame for admission rests on the law-making bodies. . . ." "The responsibility for licensing cannot be imposed on the law-making bodies. The responsibility certainly rests on the licensing boards. . . ."

The statute of Massachusetts may possibly be a sufficient pleading for admitting to examination in 1921-25 inclusive 334 of the 1011 graduates of this type admitted in that period in the entire United States and colonial possessions, although a considerable number of these were graduates of schools which did not give a four-year course but a telescoped course under which students did two of the four-year courses in one. Under a Massachusetts Supreme Court decision as long ago as June 19, 1869, in the case of the Attorney General vs. Boston Dental School, it was held that such telescoping of courses was not valid in professional education and permanent injunction was issued against granting degrees to students who had pursued their course in this manner.

In the two years (1924 and 1925) following the closure of Connecticut to this type of men the admissions to examination showed no decrease in Massachusetts in spite of the fact that the testimony in the Connecticut cases showed that at least two of the schools were not four-year schools, and this testimony was available to the Massachusetts Board if it had sought it.

Indeed the percentage of the total graduates of this type admitted to examination in Massachusetts in relation to the total graduated in each of those years increased from an average of 30% in 1921-23 up to 63% in 1924 and 45% in 1925. The condition of the Missouri schools was then notorious in New England at least, and yet the Massachusetts Board continued to admit their graduates to examination, and made no inquiry of the Missouri authorities for information regarding the schools.

In my opinion the Massachusetts statute is not an adequate pleading for having licensed 151 of these 334. No State in the Union has licensed so many of these men, and only Illinois, with 110 licensed, and Connecticut, with 93 licensed, have approached it.

In Connecticut most of these licenses have been revoked, and no graduate of this type has been admitted to examination since 1923. However, in the two years of 1924 and 1925 combined Massachusetts admitted to examination 117 graduates of this type and licensed 48 of them or 41%. Only Illinois with 61% and Arkansas with 100% have a worse record of percentage licensed in those two years, and in numbers both are better, Illinois having licensed 34 and Arkansas 19.

There is no proper inference in my article that the members of the Massachusetts Board are not "honorable public servants" nor that these members are "not qualified for the work" or "stupid, indifferent or mercenary." The inference to be deduced is that the methods of examination generally current must be inadequate if they permit the licensure of men that we know are illy trained in medicine, because the schools from which they come lack the facilities to give an adequate training.

Objection is made in your editorial to any mention of corruption of public officials or employees regarding medical licensure without full specifications as to where and when. In recent years there has been much talk of the securing of license to practice medicine by corruption. Some of these references have occurred as charges by witnesses under oath. Others have been confessions under oath by participants, and finally there have been general charges that in many States licenses have been secured by corrupt methods. In recent years I have had a not inconsiderable contact with this question, and in this article mentioned I have attempted to assert that in my opinion, formed after all this contact, the amount of corruption is not so general as has been charged when I say: "These accusations are general rather than specific and in my opinion only occasionally are they worthy of credence."

By this statement I believe I have done only a public duty to boards in general by aiming to diminish the belief in widespread corruption. To have ignored the subject would have left unchallenged the general charges. To have mentioned the few cases which appear to me worthy of credence would have invited an endless discussion concerning individuals who are no longer in office and some of whom are dead. I believe myself justified in the treatment I gave the matter.

In fact, I believe cases of corruption, if they occurred, are less serious than the inadequacy of methods. Corruption is individual, concealed, an acknowledged dereliction, and unlikely to be often repeated. Inadequacy of examination methods is a joint responsibility of an entire board, open and usually, as in this case, defended and likely to continue until there is a full realization on the part of the entire board of its existence.

In conclusion, this whole question of licensure is one that needs discussion and cooperative effort at improvement. Where the statutes need changing the public must be informed. In Massachusetts was found the first statutory control of medical licensure by the profession and it seems as if an effort should be made, not only by the profession of Massachusetts but from every source of influence, to convince the public that their servants, the legislators, should provide an adequate statute. I have prepared and offered for publication a paper which I believe will convince the unprejudiced reader that the present Massachusetts statute is at variance with the historical development and with the true theory of the licensing function.

Very truly yours,

FREDERICK C. WAITE.

EDITORIAL NOTE:—Our esteemed correspondent in the letter above in his criticism of Massachusetts allows part of the blame for existing conditions relating to the registration of physicians to rest on the

Legislature and the other part on the licensing board. His way of putting the case seems to justify our contention that he believes that the greater blame can be laid on the Board. We would like to have him offer more definite criticism of the examinations and the findings of the Board. He must know that examinations which result in the rejection of some graduates of some Class A schools could not be made more rigid without increasing the number of rejected representatives of approved schools. If made more searching with the object in view of preventing the registration of all graduates of low grade schools there would develop more antagonism to the Board than already exists with the charge that the Board is employing discriminative tactics. This method has never met with favor in this State. So long as the Board is obliged under the law as interpreted by the Attorney General to accept certain applicants, and this applies to the St. Louis schools referred to, it must in all justice treat all alike.

Does our correspondent honestly believe that the comparatively few registered persons representing the discredited schools do as much harm as the vastly greater number of cultists which are allowed to practice in other States under registration by specific boards? We think not because these cultists are practicing medicine, and we further believe that the Massachusetts system, admittedly faulty as it is, has resulted in better average medical service than that which is permitted in those States which register the cultist as such. In the analysis of the record for five years giving the results of the examination of graduates of the six schools under examination Massachusetts registered only 151, an average of less than 30 a year, and rejected 183. This demonstrates that the Board of Registration had no tender regard for these applicants. And in the July examination of 1926 its percentage of rejections was much higher, as shown by 17 rejections against four registrations in one case, and 13 rejections against nine registrations in another, and 18 rejections against one registration in a third.

We deplore the registration of this small number of representatives of the schools in question, but we are not yet convinced that the Board could have done better and played the game fairly.

In the original article by our correspondent he states that "It appears that Massachusetts and Illinois deserve more severe condemnation," and since he lays the greater blame on the Board rather than the governing law our contention that he has vilified the Board not once but repeatedly throughout his article holds true in our opinion.

Our correspondent claims that efforts should be made to improve the existing laws. This effort has been made regularly year after year before legislative committees and also by published statements and personal appeals. What more is expected of the profession by our correspondent?

We look forward with interest to the promised publication which the eminent professor evidently believes will tell us more than we already know.

We deplore existing conditions as definitely as Dr. Waite does, but we do not think that the Board of Registration has been fairly treated by him.

WORKMEN'S COMPENSATION LAW

Editor, Boston Medical and Surgical Journal:

In your issue of November 4 there is a letter from a correspondent, which deserves an answer.

As I have been familiar with the work of the Industrial Accident Board since 1912 and have served on the Medical Advisory Committee before becoming Medical Adviser, I ask your permission to reply to it.

In the beginning, let me say that any attempt to minimize or disparage the very important and constructive work of the Medical Advisory Committee to the Industrial Accident Board is most unfair to a

group of men who gave their best efforts to chart the "unknown seas" of workmen's compensation in our State. This medical committee is not a creature of the Massachusetts Medical Society but was appointed by the Industrial Accident Board on recommendations; two from the Massachusetts Medical Society, two from the Massachusetts Homeopathic Society and three representing the Board. No one familiar with their work can have anything but words of praise.

If hospital doctors lose by not being paid for work done on service, probably no man loses more than Dr. F. J. Cotton, who has served as chairman of the Medical Advisory Committee.

The administration of the law is vested in the Industrial Accident Board. They must make the decisions upon evidence presented or make "such inquiries and investigations as shall be deemed necessary" (Section 8) on matters that shall then be presented in evidence (Supreme Court of Massachusetts).

The first year of the law was unsatisfactory from the medical standpoint and the Board called in the medical profession, hospital administrators and others to get advice and assistance in taking care of the injured workman and his rights.

But the Industrial Accident Board must administer the law as it stands. It has not and cannot turn over its powers of decision to anybody or any committee.

In order that the medical profession as a whole may know something of the facts, a brief survey of the present situation is desirable.

The Industrial Accident Board is appointed to carry out the provisions of a workmen's compensation law. If the law needs changes, the changes must come through the Legislature.

Insurance costs are matters for the Commissioner of Insurance.

There are several parties to this law, all of whom are called upon to make concessions to the point of sacrifices that the doctrine of the greatest good for the greatest number may be applied.

First: The injured workman comes first in our consideration. He gives up his right to sue under common law and, irrespective of his wages, cannot receive over \$16 a week. If he dies, his widow must get along on \$10 a week for 400 weeks (Section 31), and then compensation ceases. If there are children who are under the age of 18 or over said age and physically or mentally incapacitated from earning, \$2 a week is allowed for each child but for not more than three children, the maximum to both widow and children being \$16 a week for a period of 400 weeks.

Second: The employers are obliged to cover their employees by insurance. If they do not, they are subject to the provisions of Section 66 of the law, as follows:

"In an action to recover damages for personal injury sustained by an employee in the course of his employment, or for death resulting from personal injury so sustained, it shall not be a defence:

- "1. That the employee was negligent;
- "2. That the injury was caused by the negligence of a fellow employee;
- "3. That the employee had assumed the risk of the injury."

Third: The insurance companies, representing the employers, are obliged to write the business at a rate fixed by the Commissioner of Insurance.

Having in mind the purpose of the Act and that the injured man, the employer and the insurance carrier all make concessions, why is it unreasonable for the Industrial Accident Board to seek an industrial basis for physicians' and hospital charges?

Hospital rates:

The hospital rates were not fixed by the Medical Advisory Board. Hospital rates were fixed on the recommendation of the Hospital Advisory Board in

1914 and were revised in 1915, 1917 and 1920. The present rates were approved by the Board by vote on June 3, 1920, at the peak of war time costs. At present, for the first time since 1920, a committee of the American Hospital Association, of whom Dr. Washburn of the Massachusetts General Hospital, Dr. Howland of the Peter Bent Brigham Hospital, Richard Borden, Esq., of Fall River, all of whom served on the original committee, are considering further recommendations.

The rule of the Industrial Accident Board briefly stated:

"That hospitals may charge a rate not exceeding \$21 per week with reasonable extras.

"The rate charged to the employers of labor through their insuring companies shall not be higher than that charged to the non-insured public."

Under this rule, the Massachusetts General Hospital standard rate to insured and non-insured is \$21 a week. The same is true of the Peter Bent Brigham Hospital and St. Elizabeth's Hospital, while the Boston City Hospital charges but \$16 per week.

Private rooms and special nurses are allowed if necessary.

The power of the Industrial Accident Board in regard to medical treatments and rates to be charged, is found in Section 30, Chapter 152, of the General Laws, and is as follows:

"During the first two weeks after the injury, and, if the employee is not immediately incapacitated thereby from earning full wages, then, from the time of such incapacity, and in unusual cases, in the discretion of the department, for a longer period, the insurer shall furnish adequate and reasonable medical and hospital services, and medicines if needed. The employee may select a physician other than the one provided by the insurer, and in case he shall be treated by a physician of his own selection, or where, in case of emergency or for other justifiable cause, a physician other than the one provided by the insurer is called in to treat the injured employee, the reasonable cost of his services shall be paid by the insurer, subject to the approval of the department. Such approval shall be granted only if the department finds that the employee was so treated by such physician or that there was such emergency or justifiable cause, and in all cases that the services were adequate and reasonable."

Under this section, the Industrial Accident Board has sponsored a broad and liberal policy towards hospitals and physicians that an injured man might receive the best service that could be obtained.

The Board has not interfered with hospital management.

Is it desirable to change this policy?

It is urged that hospitals be paid the actual cost of caring for industrial cases.

Let me ask how is the cost to be ascertained and who is going to do it?

Shall well arranged and efficient hospitals get less than the poorly arranged and expensively run hospitals? Shall there be fixed an overhead percentage based upon number of beds? Shall excessive office and managerial staffs be permitted?

Shall the rate be fixed by the Commissioner of Insurance based upon a system similar to that used on the other expense features of the insurance carriers?

How far shall the business of our communities, on which our prosperity depends, now taxed for hospital support, be again called upon to pay increased insurance premiums to be used for hospital purposes?

Should staff physicians be paid?

This was passed upon by the Hospital Advisory Committee as well as the Medical Advisory Committee.

Let me quote the rule that has been in effect since 1914:

"Owing to the difference in hospitals in various

parts of the State, both as to their size and as to the different rules governing the work of the respective staffs, also owing to the difference in local conditions, we deem it impractical to allow an industrial accident case coming to the hospital as a hospital case, to be made into a private case and to allow the attending physician to charge for his services as in a private case."

The Board has also ruled that the consulting staff of hospitals shall have the right to charge under certain circumstances.

For instance, in the case of hospitals such as Beverly, Fitchburg and Attleboro, where a consultant comes from Boston for special work, a reasonable fee has been allowed.

The same is true of hospitals that get consultants from large nearby centres; e. g., Milford Hospital having consultants from Worcester, etc.

Let me call to mind some of the parties interested in this matter:

a. Hospital trustees, not medical men as a rule, and certainly not under the direction and control of any medical society and rarely dominated by even their medical staffs

b. The insurance carriers representing employers. Are they to have no say as to how the monies for which they are responsible are to be spent? Must they put up with an antagonistic staff physician who refuses to coöperate because of bias or for other reasons?

c. The injured workman:

Must he submit to treatment from a man not in sympathy with him and who does not know or ignores the man's interests and who refuses or neglects to aid the man or his dependents in obtaining their rights?

d. The general practitioner, so called, who is competent to care for most of the injuries arising from accident. What provision is there for him to retain control and treat his own patients under present hospital conditions?

Membership on hospital staffs confers a peculiar and important right upon a few selected members of the medical profession. Shall they be given a monopoly in treating these cases by reason of the equipment placed at their disposal by charitable funds?

Insurance Rates:

Your correspondent states that insurance companies collect in one year in Massachusetts \$20,000,000, pay out \$8,000,000 and keep the balance of \$12,000,000 as "just a little overhead and profit." He then goes on to say that "the important fact" is that "you neglected to say how much the insurance companies collected in 1925 from employers out of which they paid this eight million." He then goes on to say that "of every five dollars paid in to insurance companies by employers . . . sad to relate, there is but three dollars and twenty-five cents left for its own use."

The insurance department computes the compensation insurance rate on the following basis:

Expected losses, 60 per cent. of premiums paid; balance of 40 per cent. a load for expenses. This latter item is divided as follows: Inspection and accident prevention, 2½ per cent.; claim adjustment, 8 per cent.; payroll audit, 2 per cent.; taxes, 2½ per cent.; administration expense, home office, 7½ per cent.; acquisition expense, divided between agents and brokers for expense of acquiring business, 17½ per cent.; total for expenses, 40 per cent.

The fact is that in no one year have the insurance companies collected from employers as premiums under the Workmen's Compensation Act such a sum as twenty millions of dollars. The largest total premiums ever received under the compensation law was in 1919, when the figures of the Commissioner of

Insurance of Massachusetts show that employers paid in \$14,266,689. That was a time when industry was working full time and overtime and therefore the premiums received reached the highest figure of the 14-year period since 1912. In 1921, the premiums received by insurers dropped to \$9,676,948; in 1923 increased to \$11,736,110, and now have reached what is regarded by the Insurance Department as a normal average, approximately \$13,000,000.

The best a stock company can do is to make in an average year, where there are no excess losses, a profit of from 4 to 5 per cent. This cannot be made unless conditions are favorable and the companies can shave off something on the percentages allowed for the various items of expenses. In some years, notably in 1921, 1922 and 1923, the companies as a whole were unable to make a profit, due to the excessive percentage of premium income paid out as losses. In 1921 insurers averaged a loss payment of 65 per cent.; in 1922, a loss payment of 69 per cent.; and in 1923, a loss payment of 67 per cent. Experience in 1924 and 1925 is similar. (Reb. Dec. 9.)

Lastly, I wish to state my emphatic conviction, based upon an intimate association with our hard-working, conscientious Board, that the physicians, surgeons, specialists, hospitals, have, as a whole, fared well as the result of the able administration of the Industrial Accident Board.

When need of change was evident, that change has come.

Compensation problems are many, but I feel the medical profession can be depended upon to keep step with the spirit of our law and will not let anything stand against the duty of treating and curing our injured workers and preserving them to their families and to our country.

Yours very truly,

FRANCIS D. DONOGHUE, M.D.

CONNECTICUT DEPARTMENT OF HEALTH

MORBIDITY REPORT FOR THE WEEK ENDING NOVEMBER 6, 1926

Diphtheria	26	Encephalitis, epidemic	1
Last week	28	German measles	2
Diphtheria bacilli carriers	27	Influenza	7
Typhoid fever	4	Malaria	1
Last week	4	Mumps	1
Scarlet fever	47	Pneumonia, lobar	18
Last week	48	Septic sore throat	1
Measles	6	Tuberculosis, pulmonary	18
Last week	11	Tuberculosis, other forms	2
Whooping cough	30	Gonorrhea	37
Last week	59	Syphilis	21
Bronchopneumonia	23		
Chickenpox	81		

MORBIDITY REPORT FOR THE WEEK ENDING NOVEMBER 13, 1926

Diphtheria	24	Conjunctivitis, infectious	1
Last week	26	Encephalitis, epidemic	1
Diphtheria bacilli carriers	29	German measles	1
Scarlet fever	65	Influenza	2
Last week	47	Mumps	3
Typhoid fever	4	Pneumonia, lobar	26
Last week	4	Tuberculosis, pulmonary	26
Measles	9	Tuberculosis, other forms	1
Last week	6	Gonorrhea	46
Whooping cough	52	Syphilis	36
Last week	30		
Bronchopneumonia	12		
Chickenpox	118		

CASES REPORTED TO THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH FOR THE WEEK ENDING NOVEMBER 6, 1926

Anterior poliomyelitis	10	Ophthalmia neonatorum	25
Chickenpox	208	Pneumonia, lobar	49
Diphtheria	83	Scarlet fever	249
Dog-bite requiring anti-rabic treatment	4	Septic sore throat	1
Encephalitis lethargica	1	Suppurative conjunctivitis	3
Epidemic cerebrospinal meningitis	2	Syphilis	60
German measles	6	Tuberculosis, pulmonary	82
Gonorrhea	195	Tuberculosis, other forms	12
Influenza	12	Tuberculosis, hilum	28
Measles	33	Typhoid fever	12
Mumps	111	Whooping cough	86

CASES REPORTED TO THE MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH FOR THE WEEK ENDING NOVEMBER 13, 1926

Anterior poliomyelitis	7	Pneumonia, lobar	57
Chickenpox	289	Scarlet fever	251
Diphtheria	107	Septic sore throat	2
Dog-bite requiring anti-rabic treatment	4	Suppurative conjunctivitis	9
German measles	9	Syphilis	37
Gonorrhea	103	Trachoma	2
Influenza	15	Trichinosis	1
Malaria	1	Tuberculosis, pulmonary	91
Measles	29	Tuberculosis, other forms	11
Mumps	139	Tuberculosis, hilum	10
Ophthalmia neonatorum	28	Typhoid fever	8
		Whooping cough	104

RESUME OF COMMUNICABLE DISEASES IN MASSACHUSETTS

OCTOBER, 1926

GENERAL PREVALENCE

The common communicable diseases which showed an increase over last month were chickenpox, diphtheria, measles, mumps and scarlet fever.

	Oct., 1926	Sept., 1926	Oct., 1925
Chickenpox	420	107	344
Diphtheria	291	209	388
Measles	120	70	1,300
Mumps	269	142	84
Scarlet fever	729	353	566

RARE DISEASES

Anterior poliomyelitis was reported from Berlin, 1; Boston, 1; Brockton, 2; Brookline, 1; Cambridge, 1; Dana, 1; Fitchburg, 2; Greenfield, 1; Malden, 1; Middleboro, 1; Millbury, 1; Pittsfield, 3; Quincy, 1; Southbridge, 1; Spencer, 1; Springfield, 3; Webster, 2; Westboro, 2; Worcester, 1; total, 27.

Dog-bite requiring anti-rabic treatment was reported from Boston, 1; Cambridge, 5; Chelmsford, 1; Everett, 3; Lowell, 4; Peabody, 2; Revere, 3; Somerville, 2; total, 21.

Dysentery was reported from Ipswich, 1.

Encephalitis lethargica was reported from Beverly, 1; Boston, 1; Haverhill, 1; Hingham, 1; Lynn, 1; New Bedford, 1; Newburyport, 1; Salem, 1; Springfield, 1; total, 9.

Epidemic cerebrospinal meningitis was reported from Boston, 2; Brockton, 1; Gloucester, 1; Lawrence, 1; Leominster, 1; Worcester, 1; total, 7.

Malaria was reported from Boston, 2.

Pellagra was reported from Boston, 1.

Septic sore throat was reported from Boston, 3; Chelsea, 1; New Bedford, 1; Newton, 1; Springfield, 1; Worcester, 1; total, 8.

Tetanus was reported from Middleboro, 1.

Trachoma was reported from Boston, 1.

DISTRIBUTION

All Communicable Diseases

	Oct., 1926	Oct., 1925
Total cases (all causes)	3,754	5,211
Case rate per 100,000 population	89.0	125.3

Certain Prevalent Diseases

	Oct., 1926	Oct., 1925
Diphtheria	291	388
Total cases	291	388
Case rate per 100,000 population	6.9	9.3

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

Salem	24	Spencer	14
-------	----	---------	----

	Oct., 1926	Oct., 1925
Measles	120	1,300
Total cases	120	1,300
Case rate per 100,000 population	2.8	31.3

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

Medway	24
--------	----

	Oct., 1926	Oct., 1925
Scarlet Fever	729	566
Total cases	729	566
Case rate per 100,000 population	17.3	13.6

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

Franklin	14	Quincy	38
Lynn	31	Watertown	19
Needham	21		

	Oct., 1926	Oct., 1925
Tuberculosis, Pulmonary	394	395
Total cases	394	395
Case rate per 100,000 population	9.3	9.5

	Oct., 1926	Oct., 1925
Tuberculosis, Other Forms	69	65
Total cases	69	65
Case rate per 100,000 population	1.6	1.6

	Oct., 1926	Oct., 1925
Typhoid Fever	87	68
Total cases	87	68
Case rate per 100,000 population	2.1	1.6

Cases in cities and towns that have noticeably exceeded their median endemic indexes*:

Ashburnham	9	Belmont	21
------------	---	---------	----

	Oct., 1926	Oct., 1925
Whooping Cough	322	715
Total cases	322	715
Case rate per 100,000 population	7.6	17.2

*The median endemic index is obtained by arranging in arithmetical sequence the monthly totals of reported cases for the past five years and selecting the middle figure.

NEWS ITEMS

CHARLES EVANS HUGHES ELECTED HONORARY PRESIDENT OF THE AMERICAN ASSOCIATION FOR MEDICAL PROGRESS—At a recent meeting of the American Association for Medical Progress Charles Evans Hughes was elected honorary president, succeeding the late Dr. Charles W. Elliot.

This is an association, composed largely of laymen, for the purpose of advancing the usefulness of medicine and especially designed to offset the influences antagonistic to scientific medicine.

A DINNER TO DR. NAGELSCHMIDT—A complimentary dinner has been arranged in honor of Dr. Franz Nagelschmidt of Berlin by the American Electrotherapeutic Association and the New York Electrotherapeutic Association for Friday, December 3, 1926, at the Pennsylvania Hotel.

Dr. Nagelschmidt is regarded as the pioneer in the development of electrotherapeutics, and especially diathermy.

UNIVERSITY OF VERMONT—Professor F. H. Albee has resigned the chair of orthopedic surgery at the University of Vermont. The position has been filled by the appointment of Dr. B. H. Whitbeck of New York City.—*Science*.

NOTICES

COPIES of the article by Dr. Huber setting forth the Problem of Communicable Diseases in Massachusetts will be ready for publication at an early date.

In order that we may have some idea of the demand we respectfully suggest that all persons wanting to secure copies of that article, send in their orders immediately.

The price will be \$1.50 per copy for cloth-bound volumes and 65c per copy for paper-covered volumes.

NORTH AMERICAN PHYSICIANS ARE INVITED TO VISIT THE CLINICS OF EUROPE AGAIN IN 1927

In May next year a group of physicians with members of their families from the United States and Canada, under the direction of the Inter-State Post Graduate Medical Association of North America, will sail from New York to visit the following leading medical centers of the Old World:

London, Edinburgh, Oslo, Stockholm, Upsala, Lund, Copenhagen, Hamburg, Leipzig, Munich, Strasbourg, Heidelberg, Frankfurt and Paris.

This will be the third year that foreign assemblies have been conducted under the auspices of this organization. Those of 1925 and 1926 were exceedingly successful and of great benefit to the physicians who took advantage of them. No doubt the 1927 assemblies will meet with equal success.

In including Norway, Sweden and Denmark in the itinerary the Association is offering the profession an exceptional opportunity to visit

and study in some of the finest clinics in the world.

The group of physicians will be limited to a number that can be comfortably accommodated in the clinics which will cover the entire field of medical science.

The price of the trip will be kept as low as possible and yet furnish first-class accommodations. It will be between \$1000.00 and \$1100.00. All physicians who are in good standing in their State or Provincial Society may register. Further information may be obtained from the Managing-Director, Dr. William B. Peck, Freeport, Illinois, or the Travel Department of the American Express Company, 65 Broadway, New York, N. Y., who have charge of the transportation.

REPORTS AND NOTICES OF MEETINGS

BOSTON MEDICAL HISTORY CLUB

Boston Medical Library, Friday, November 26, 1926, at 8:15 P. M.

PROGRAM

1. The History of the Development of Medical Schools. By Dr. Charles F. Painter.
2. Notes on the Black Death in Danish Folk Lore and Tradition. By Dr. Johnsson of Copenhagen. (To be read by Dr. J. W. Courtney.)
3. Thierry de Hery. By Dr. Edward C. Streeter.

Light refreshments after the meeting.

HENRY R. VIETS, M.D., *Secretary*.

THE ANNUAL MEETING OF THE NEW HAMPSHIRE SURGICAL CLUB

THE 29th annual meeting of the New Hampshire Surgical Club took place Monday, September the 13th, 1926, at Hanover, N. H. This meeting was arranged as a week-end outing for members, their families, and guests and was under the direction of the Hanover members of the New Hampshire Surgical Club, Dr. John F. Gile of Hanover, N. H., chairman.

On Sunday evening preceding the meeting a dinner was given by the Hanover members at the Mell Adams Outing Club to the members, guests, and ladies. This was a most enjoyable occasion.

Monday forenoon, September the 13th, an interesting clinic was held at the Mary Hitchcock Hospital under the direction of the hospital staff.

At the annual meeting Monday, September the 13th, under new business a committee consisting of Daniel C. Norton, M.D., J. Franklin Robinson, M.D., and John F. Holmes, M.D., were appointed to draw up resolutions on the death of Arthur F. Wheat, M.D.

New members elected were as follows:

Dr. David R. Brown of Concord, N. H.; Dr. H. A. DesBrisay of Hanover, N. H.; Dr. C. F. Keeley of Claremont, N. H., and Dr. Walter J. Roberts of Rochester, N. H.

The nominating committee consisting of Dr. Thomas W. Luce of Portsmouth, N. H.; Dr. Ezra Jones of Manchester, N. H., and Dr. Emery Fitch of Claremont, N. H., brought in the following list of officers who were subsequently elected for the ensuing year:

President, E. B. Eastman, M.D., of Portsmouth, N. H.; Vice-president, E. M. Miller, M.D., of Woodsville, N. H.; Secretary-treasurer, John F. Holmes, M.D., of Manchester, N.H.; Executive committee: The President and the Secretary-Treasurer, Ex officio; Dr. Daniel C. Norton of Manchester, N. H.; Dr. John F. Gile of Hanover, N. H., and Dr. C. R. Metcalf of Concord, N. H.

The annual address was delivered by the retiring president, Dr. James B. Woodman of Franklin, N. H., presenting a case of chronic intussusception, four years duration. An interesting discussion followed.

Dr. Elmer M. Miller of Woodsville, N. H., read a paper on "Focal Infection." The following points were emphasized: 80% of focal infection is caused by the teeth or tonsils. A blush on the anterior pillar of the tonsil suggests pus behind it. A tonsil infection is sometimes secondary to an infection in the teeth. An X-ray of the thymus gland is desirable before operating on the tonsils. It is sometimes desirable to remove infected tonsils before operating for hyperthyroidism.

Dr. Halsey B. Loder of Boston, Mass., spoke on "Skin Grafting" emphasizing the autogenous graft and recommending full thickness skin graft closely approximated at the edges and fitting accurately. He advised that they should not be larger than $1\frac{1}{2}$ by 3 inches. Interesting discussions followed the presentation of these subjects.

The annual banquet took place Monday evening at 8 P. M., Dr. Elmer H. Carlton of Hanover, N. H., acting as toastmaster. The following after-dinner speakers were heard:

Dr. James B. Woodman of Franklin, N. H.; Dr. Willard W. Pierce of Springfield, Mass., and Professor E. B. Watson, Dartmouth, N. H.

The meeting was largely attended and in every way a great success. Much credit is due the Hanover members for their unselfish and untiring efforts.

PRESIDENT'S ADDRESS BY DR. JAMES B. WOODMAN
OF FRANKLIN, N. H.

Members of the New Hampshire Surgical Society and Guests:

It was not my privilege to be present at the meeting in Portsmouth one year ago, therefore I

wish to embrace this, my first opportunity to express to you my appreciation and thanks for the honor of being your President for the past year. It is, I feel, an honor to be cherished and a responsibility to be faithfully discharged. I feel that the New Hampshire Surgical Society holds an honored place among the surgical societies of the land. It is an organization for which to work and of which to be proud. May it live long and prosper.

In choosing a topic for my paper today I have tried to go not too far afield but to open up some discussion in the realm of diagnosis of abdominal lesions. With this in view I will submit the following case:

Mrs. W. P., age 56, para four, wife of a machinist. Family history not important. Patient was always well until four years ago when she was standing on a step ladder, reaching up, when she slipped and fell, straining herself and causing quite a severe pain in the abdomen. There was no direct blow upon the abdomen. The pain wore away largely after a few hours. No physician was summoned at that time. From this date she began having rather constant abdominal pain, indigestion and constipation.

Previous to her accident the bowels had been normal and digestion good. She began losing weight and color and over a period of four years she had dropped from 140 pounds to 95 pounds, a loss of more than one-third of her total weight. Her Hg was 75%. Through all this period of four years none of the several physicians who had carefully examined her were able to make out any tumor or any particular or localized tenderness at any point, and the symptoms of pain, indigestion and constipation, with a steady loss of weight, were the only symptoms obtained.

Along with these symptoms she developed an increasing nervousness which was attributed to business worries and was supposed to be the cause of all her troubles. Her urine had been normal at all times. Her Wassermann was negative. Her B. P. was 140/75. Heart and lungs normal.

I saw her on the 12th day of November, 1924, at which time she had been rapidly growing worse for several days. On that date she had a temperature of 100, pulse 100 and respiration 18. She had been having more pain and the abdomen was now rigid and extremely tender throughout. A large, boggy mass could now be felt in the lower mid-abdomen. The same could be felt per vaginam and per rectum. This appeared to be low down behind the uterus. It was the first time that any tumor could be palpated. She had been unable to get any action of the bowels for a couple of days and she was quite nauseated. No blood had ever been observed in the stools at this or any other time. There was never any tenesmus.

The patient was removed to the hospital and operated on at once. A $4\frac{1}{2}$ -inch low median incision was made and a sausage-shaped tumor of the ilium, 14 inches long, was found. This was apparently a combination of an old intussusception of four years' standing with an additional acute intussusception superimposed upon it. The adhesions first encountered were fairly light, while the deeper ones had ceased to be adhesions and the adjacent gut walls had actually grown together in a mass of connective tissue. The three layers of gut finally involved would have measured, had it been possible to straighten them out, about $3\frac{1}{2}$ feet.

A resection of four feet of small intestine, including the involved part, was done, followed by a lateral anastomosis.

The lady made an uneventful recovery. The bowels moved normally on the second day without laxa-

tive. She has had a daily movement of the bowels ever since without laxative. She has gained back her lost 40 pounds of weight and had perfect digestion and very good nerves.

Now what is the moral, if any, to be pointed from this case?

When comparing this case with the classical case of intussusception several striking points of difference are found. One well known authority gives the following brief resume of symptoms: "In most cases—75%—the ilium enters the caecum or the colon; less frequently the ilium or the colon or caecum enters itself, or the colon enters the rectum. In intussusception there are no previous symptoms; the patient is usually an infant or child—56% of all cases occurring from the fourth month to the tenth year, or a young adult; the onset is acute; tenesmus, mucous and bloody stools are present; and a palpable, sausage shaped tumor is generally to be felt (63 out of 93 cases) in the right iliac or umbilical regions, less frequently to be palpated by the rectum."

I think that I am right in adding to this that it is practically our universal experience that cases of intussusception do not wait around for four years before coming to operation. We have been taught that every hour and every minute is vital in the successful attack of these cases and that without early surgical intervention they were surely fatal.

While this rule holds good and should of course, invariably be followed, the case just cited adds to my mind one more possibility to be at least remotely considered in making a differential diagnosis of obscure lesions in the abdomen.

MEETING OF THE R. C. R. C. CLUB

THE autumn meeting of this club was held in the Harvard Club, November 9, 1926.

After dinner the President, Dr. Harvey P. Towle, called the meeting to order and presented Dr. F. A. Washburn, Director of the Massachusetts General Hospital, who gave a clear exposition of the functions of a hospital. He emphasized the importance of recognizing that the primary duty of a hospital is to furnish the best possible care for the patients. Whenever equipment and opportunity exists he felt that the next responsibility consists in making a hospital a teaching institution embracing instruction to physicians, students of medicine and the public and third engaging in and encouraging research. While he felt that a hospital should have the closest possible association with a medical school he was not altogether convinced that a hospital should be a department of a medical school. His address was a logical and convincing statement presented in a most entertaining way.

Dr. James H. Means of the Staff of the Massachusetts General Hospital, and Professor of Medicine in the Harvard Medical School, explained the methods in vogue at the Massachusetts General Hospital with respect to teaching medicine. He referred to the present day criticisms of the alleged tendency to devote too much time to research and the education of specialists. He assured the audience that the purpose of his department is to educate general practitioners and felt that research occupies a proper position in dealing with the problems presented by patients. He spoke especially of the experiment now being tried of having students give more time to the observation of patients during convalescence. After patients have left the hospital he has arranged for a follow-up system by students who will examine these patients from time to time and report on the progress toward recovery. He felt sure that by this method greater and more sustained interest on the part of the student would be developed to the advantage of the patient as well as the student. He felt quite sure that there was no disproportionate amount of time and effort spent on research.

Mr. Robert W. Kelso spoke as one not on the inside of hospital practice but rather as one looking in from the outside who has become rather interested in the social and economic problems of the hospital in its relation to individuals and society. He complimented the hospitals for the great service rendered to humanity and felt that modern thought tends to take more definite cognizance of the spiritual and economic problems of the patient than heretofore.

His treatment of this subject was in well chosen phrases with telling illustrations.

Mr. James Dean of the Board of Management of the Massachusetts Eye and Ear Infirmary, at first disclaimed any ability as an orator but his treatment of the affairs of the institution of which he is an official was of interest from an historical point of view as well as the present day functions and needs of this institution.

Taken individually and together the addresses were most instructive and the audience paid close attention to the speakers.

Dr. Francis P. Emerson read a paper expressing his opinion with respect to the responsibilities and opportunities of a hospital as follows:

THE FUNCTION OF THE GENERAL HOSPITAL

Development

The evolution of the modern hospital during the last ten years has centered about the pathological laboratory and in the perfecting of surgical technic. That is, it has been an institution for the salvaging of human wreckage, and the hospital is equipped and functions for this purpose and none other. Its achievements along this line have made American surgery second to

none, and our laboratories rank with the best; but is this not a one-sided development? Could not this commendable work go on, and at the same time have the hospital so function that it would fill a larger place in the community, and one more in keeping with modern, scientific requirements?

The concept of the modern hospital has changed. It is no longer an alms house or charitable institution, to which only the destitute can go for the bare relief of their immediate necessities, but it is the medical center for all activities relating to the individual and corporate health of the community. It appeals to the public for funds to carry on such activities, and incidentally to serve as a teaching center, by using its clinical material for the instruction of post- and under-graduate students. Has there been an orderly development in the general hospital, in its service to the public, along these lines? Patients were admitted oftentimes without too close scrutiny of their financial status, on the plea that such material was needed for teaching. Today, we have the anomalous situation that our clinics are overrun with clinical material that makes the routine work of the staff such a burden that they have no time for research. The habit of superficial examinations simply to weed out the dangerous cases is too frequent, and only those who are of surgical interest receive the attention they deserve.

On the medical side, each man is an independent research worker, if at all, and both medical and surgical investigators must see that his records are complete for publication and supply the gaps in the hospital records. The pathological laboratory has become in too many hospitals an independent unit, and by reason of the volume of work, the report on specimens may be returned in two days or two weeks. We have, then, by this increase in routine work, a vast amount of undigested material working to the injury of scientific teaching, encouraging interest in only end results, preventing the development of a spirit of scientific or exact research, and in which the worthy poor compete with those well able to pay for attention and help.

The slogan this year of the Association of Hospital Superintendents is to treat more patients each year and treat them better. This could not be objected to if it were confined to the worthy poor, but when superintendents strive to show an increased percentage of gain for their institution over the preceding year, it is unfair to the charitable public and to the taxpayer. What is the answer that will permit the hospital to do the most good for the greatest number and give it a power beyond anything that it has ever had?

First: Limit the patients to those that can be honestly and carefully treated. Emergency

work must be provided for, but why not have a central clearing house for all hospitals where the needs of the poor can be investigated in a business way, and eliminate a considerable per cent of those who should help bear the burden, instead of teaching them to become paupers? That they are not now eliminated, no one doubts, as they simply go from one hospital to another. When business men wake up to the unnecessary burden they are carrying it will not help real charity.

Second: Establish a research laboratory with one or two technicians. This will enable the house officers to continue their studies in bacteriology, serology, and the section of surgical tissue, most of which work should not go to the pathological department.

Third: Give the Staff immediate information in the study of cases.

Fourth: Make case histories complete.

Fifth: Encourage research and more exact examinations.

Sixth: Help teaching.

Seventh: Make possible the discovery of the cause or cure of some disease that will help, not only all the community, but serve mankind generally.

Eighth: Attract better house officers.

Ninth: Make the staff progressive and up-to-date, beside eliminating those who are dead wood.

Tenth: Make possible staff meetings, whose proceedings could be published to the advantage of the staff, the hospital and the medical profession.

Eleventh: Add preventive medicine and the cause of disease to the present function of the hospital in caring for end results, and round out its usefulness.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

THE Middlesex East District Medical Society held a very enjoyable and well attended meeting at the Unicorn Country Club, Stoneham, on November 17. Dinner was served at 1:00 P. M. and was followed by a short business session. The members then were addressed by Dr. Frank B. Granger on "The Actual Value of Physiotherapy." Sixty persons were present.

The executive committee has mapped out the following program: January 12, an evening meeting at the Harvard Club of Boston, Dr. Ernest M. Daland, subject unannounced. (Speaker, subject and place to be chosen by the Wakefield members.)

March, speaker, subject and place to be selected by the members from Woburn and Stoneham. (Committee Drs. Kerrigan and Keleher.)

April 13th, at the Melrose Hospital, arrangements in charge of Dr. Jos. H. Fay.

May, annual meeting at some place in the district, arrangements to be made by the Reading members, Dr. Richmond, Chairman.

ALLAN R. CUNNINGHAM, *Secretary*.

THE NORFOLK DISTRICT MEDICAL SOCIETY

A REGULAR meeting of the society will be held in the Roxbury Masonic Temple, 171 Warren Street, Roxbury, November 30, 1926, at 8:15 P. M. Telephone Roxbury 6089.

Business.

Communications: Is Communicable Disease Control Possible? Dr. George H. Bigelow, Commissioner of Public Health.

Some Practical Considerations Regarding Communicable Diseases and Efforts at their Control. Dr. Victor Safford.

Refreshments after the meeting.

FRANK S. CRICKSHANK, M.D., *Sec.*
23 Bay State Road.

PLYMOUTH COUNTY MEDICAL SOCIETY

Dr. REGINALD FITZ of the Peter Bent Brigham Hospital, Dr. Frank Grainger of the Boston City Hospital and Dr. George E. Moore, head of the Moore Hospital, were the principal speakers at the quarterly meeting of the Plymouth County Medical Society which met at the Moore Hospital, Brookton, Oct. 21, 1926. More than 50 members of the association and invited guests were present. After the speaking dinner was served under the direction of Mrs. Moore.

Dr. Alfred C. Smith, president of the society, presided, and during his introductory remarks announced that he would take the occasion to bid his fellows a temporary farewell, having arranged to sail for an extended trip to South Africa on Friday of the next week.

Dr. Fitz took for his topic, "Hypertension and Hypotension," and Dr. Grainger discussed "Physiotherapy."

Dr. Moore reported on three cases of fractured vertebrae which have been treated at the Moore Hospital during the past eight months. All have recovered and are back to their homes or at work. One of these cases was a man of 75 years who, hit by an automobile, suffered a crushing injury of three vertebrae, X-rays of which were shown.

Dr. Moore also talked on two cases of massive hemorrhages into the pancreas, an extremely rare malady which in most cases prove fatal. One of these patients has recovered and was present at the clinic.

The next meeting will be held at the Brockton Hospital, Nov. 18, and will be devoted to a discussion of legislative problems.

STAFF CLINICAL MEETING

STAFF clinical meeting, Boston City Hospital, Cheever Surgical Amphitheatre, Saturday, November 27, 1926, at 11 A. M. Demonstration of cases by members of the Medical and Surgical Staff. Discussion of the cases invited. Physicians, Medical Students and Nurses invited.

JOHN J. DOWLING, *Superintendent*.

SOCIETY MEETINGS

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

Wednesday, January 5, 1927—Semi-annual meeting. Centre Church vestry, Main Street, Haverhill.

Wednesday, May 4, 1927—Annual meeting. Russell Hall. Young Men's Christian Association Building, 40 Lawrence Street, Lawrence.

Thursday, May 5, 1927—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M.

Essex South District Medical Society

Wednesday, December 1, 1926—Beverly Hospital. Clinic, 5 P. M.; supper 7 P. M. Dr. Jason Mixer, "Diagnosis and Treatment of Cerebral Lesions." Discussion by Drs. Randall and McDermott of Salem, ten minutes each.

Wednesday, January 5, 1927—Deer Cove Inn, Swampscott. Dr. James S. Stone, "Differential Diagnosis of Acute Abdominal Conditions in Children." Discussion by Drs. O'Keefe of Lynn, Nichols of Danvers and Walter Phippen of Salem, five minutes each.

Wednesday, February 2, 1927—Hawthorne Hotel, Salem. Dr. H. H. Clute of the Lahey Clinic, "Differential Diagnosis and Treatment of Thyroid Disease." Discussion by Drs. Johnson of Beverly and Field of Salem, ten minutes each.

Wednesday, March 2, 1927—Lynn Hospital. Clinic, 5 P. M.; supper, 7 P. M. Dr. George Minot, "Pernicious Anemia, with Special Reference to Liver Diet." Discussion by Dr. Sargent of Salem and Reynolds of Danvers, ten minutes each.

Wednesday, April 6, 1927—Danvers State Hospital. Clinic, 5 P. M. Dr. Allan W. Rowe, Chief of Research Service at Evans Memorial, "The Differential Diagnosis of Endocrine Disorders." Followed by dinner. Discussion by Dr. Wood of Hawthorne and Kline of Beverly, ten minutes each.

Thursday, May 5, 1927—Censors meet for examination of candidates at the Salem Hospital, 3:30 P. M.

Wednesday, May 11, 1927—Annual meeting. The Tavern, Gloucester. Speaker and subject to be announced later.

Norfolk District Medical Society

Below are the proposed meetings of the Norfolk District for the remainder of the year. Minor changes may be made in case of necessity.

January 25, 1927—Peter Bent Brigham Hospital. Dr. Harvey Cushing. Time of meeting and subject to be announced.

March 1, 1927—Roxbury Masonic Temple, 8:15 P. M. Dr. Robert B. Greenough. To be devoted to a talk on cancer, with a résumé of the results of colloidal lead treatment.

March 23, 1927—Roxbury Masonic Temple, 8:15 P. M. Dr. F. S. Newell and P. J. Irving, "The Modern Treatment of the Eclampsias and Toxaemias of Pregnancy." If time permits—"The Modern Methods of Handling Prospective Caesarean Cases."

May 19, 1927—Annual meeting. Details of meeting to be announced.

Suffolk District Medical Society

Meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, Boston, at 8:15 P. M., as follows:

December 15, 1926—Medical Section. "Diagnosis and Treatment of Scarlet Fever and Certain Aspects of Other Contagious Diseases," Dr. Edwin H. Place.

January 24, 1927—General meeting in association with the Boston Medical Library. "Medical Work at the Metropolitan Life Insurance Company," Dr. Augustus I. Knight, Medical Director, Metropolitan Life Insurance Company.

February 23, 1927—Surgical Section. "Clinic on Neurological Cases at the Peter Bent Brigham Hospital," Dr. Harvey Cushing.

March 30, 1927—Medical Section. Subject and speaker to be announced later.

April 27, 1927—Annual meeting. Election of officers. "Medical Education in the Orient and Occident," Dr. David L. Edsall, Dean, Harvard Medical School.

Notices of meetings must reach the Journal, office, on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Defective Memory, Absentmindedness, and Their Treatment. By ARNOLD LORAND, M.D. vii + 340 pages. Philadelphia: F. A. Davis Company, 1926.

This book is the third of a series of volumes by Dr. Lorand. His two previous books, "Old Age Deferred" and "Building Human Intelligence," have been previously reviewed. He is physician in charge of one of the large resort sanatoria at Carlsbad, Czecho-Slovakia. He has, therefore, seen many thousand cases of the sanatorium type. His view on such subjects as old age, absentmindedness, and defective memory are, consequently, welcome. He has covered the ground well. His thesis is that the treatment of forgetfulness and defective memory, absentmindedness and similar conditions should be based on a treatment of the underlying causes. It is assumed that the forebrain has to do with these higher intellectual processes and that diseases such as cerebral arteriosclerosis and general paresis, in which the lesion is usually found in this part of the brain, should be the point of attack of our therapy. He has found that the treatment of cerebral arteriosclerosis is similar to the treatment of general arteriosclerosis, and he gives a long list of procedures, mostly based on hydrotherapeutic measures, which he uses. In the last few years he has been somewhat encouraged by the results of the malarial fever treatment of general paresis. He does not mention other forms of treatment, such as the use of trypanamide, which have been fairly successful in this country.

The book on the whole is interesting. The author states the point of view of one who has had much experience and wishes to express his own personal opinions. Very little of the book, however, is unscientific and it should be useful to physicians, especially, who are connected with health resorts in this country. The book is fairly well gotten up, altho there are a number of typographical errors. There are no illustrations and only a few references to the literature.

Principles of Medical Treatment. By GEORGE CHEEVER SHATTUCK, M.D., A.M., Assistant Professor Tropical Medicine, Harvard Medical School, etc. Sixth Edition Revised and Enlarged with contributions by the following authors: Joseph C. Aub, M.D.; Gerald Blake, M.D.; John B. Hawes, 2nd, M.D.; Charles Lawrence, M.D.; George R. Minot, M.D.; Edwin H. Place, M.D.; Francis M. Rackemann, M.D.; Benjamin H. Ragle, M.D.; C. Morton Smith, M.D. Cambridge, Harvard University Press. 1926.

Dr. Shattuck's previous editions of this work are so generally and so favorably known that it seems hardly necessary to mention that his book has stood for years as a conspicuously sound concise statement of the essentials of treatment of the medical diseases which it includes. The present edition, although its contents have been expanded, has been reduced by smaller printing on thinner paper to 12mo of 256 pages, so that it can be carried conveniently in any satchel.

The first three chapters by Dr. Shattuck discuss disorders of the circulatory system, nephritis, and the infections, typhoid fever and rheumatic fever, respectively. Chapter IV by Dr. Place deals with scarlet fever, measles, diphtheria, and other infections most common in childhood. The newer methods of immunization and specific treatment are included. The chapter on pneumonia and other diseases of the respiratory tract is prepared in conjunction with Dr. Blake. The section on pulmonary tuberculosis is written by Dr. Hawes, asthma by Dr. Rackemann, gastro-intestinal disorders by Dr. Shattuck, syphilis by Dr. Smith, lead poisoning by Dr. Aub, anemia by Dr. Minot, diabetes by Dr. Ragle, endocrine disorders, pre-operative and postoperative medical treatment and vaccine therapy by Dr. Lawrence. The names of all of these authors carry authority in each respective subject, and the matter contributed is in every case worthy of its writer. A wholesome conservatism is a notable characteristic of the tone maintained throughout. The last fifty pages on medication give the essentials of the pharmacology and therapeutic use of a selected list of useful drugs. This edition even more than the previous ones deserves general recognition.

Stedman's Medical Dictionary. By THOMAS LATHROP STEDMAN, A.M., M.D. Ninth Revised Edition. Illustrated. William Wood & Company. Price \$7.50.

The Ninth Edition of this standard medical dictionary includes not only words used in medicine, but in it are incorporated many dental, veterinary, chemical, botanical, electrical, life insurance and other special terms. The appendix contains a table of drugs, their doses and uses, as well as the usual tables of weights and measures, symbols and abbreviations. Several hundred new terms have been included in this new edition. The type is clear, the illustrations are helpful.